The American Neptune

THE AMERICAN NEPTUNE

A QUARTERLY JOURNAL OF MARITIME HISTORY

1948
Volume V III

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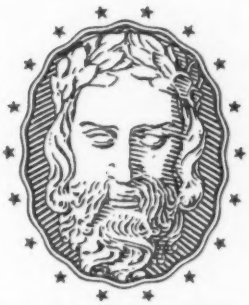
THE AMERICAN NEPTUNE

A Quarterly Journal  *of Maritime History*

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FOR *seven years the editorial comment on this page has been written in the name of the Editors of* THE AMERICAN NEPTUNE. *It is now necessary, in one instance, at least, to depart from this collective anonymity, as the death of Lincoln Colcord on 16 November 1947 has broken, for the first time, the small group of friends who have been responsible for the editing of this journal. It consequently seems appropriate to give some account of the part that he played in its foundation.*

In February 1939 the Peabody Museum Marine Associates were organized at the Peabody Museum of Salem. This group consisted of men interested in various aspects of maritime history, who agreed, without formal organization of any kind or without the ceremonies of electing officers and bickering over by-laws, to meet at the Museum on the fourth Monday of each month to hear a paper and discuss matters of mutual interest. It was natural that Lincoln Colcord, during one of his visits to me at North Andover, should wish to foregather with the Marine Associates, and I therefore asked him to read a paper entitled 'The Last Forty Years of American Sail—1865-1905' at the meeting of 23 October 1939. This was a subject that he knew at first hand, for he had been born off Cape Horn, aboard his father's ship, on 14 August 1883, and had grown up at sea in the characteristic manner of a Maine shipmaster's son. The gifts of literary expression that were added to this first hand experience made him the spokesman for many less articulate seamen. To

his house at Searsport there came a great variety of people of all kinds and experiences who shared their enthusiasms with him. Consequently he was uniquely at the center of maritime knowledge in New England and aware of what was passing through the minds of many people who cared for the history of New England seafaring. In the course of the twenty-third of October, while at Salem, Link became more and more emphatic about the necessity of a journal where scattered accounts of American maritime history could be brought together. By eight o'clock, when the hour for the Marine Associates meeting had arrived, he had forgotten all about his announced subject and had only the new journal in mind. In completely characteristic fashion he spoke extemporaneously upon that theme, and with such conviction and fervor that by the end of the evening there was no longer any doubt in anyone's mind that something of the sort should be attempted by the Marine Associates.

Various conversations followed during the winter, and on 5 May 1940 a group of friends who formed the nucleus of the editorial and editorial advisory boards assembled in my barn in North Andover for a day's discussion. To the New Englanders present it seemed fine and balmy spring weather, although Alec Brown and Vernon Tate, coming respectively from Newport News and Washington, sat shivering in their overcoats. With Link, as always, in the center of the discussions, the final plans for the publication of THE AMERICAN NEPTUNE were laid at that time. The name had been supplied by Phil Cranwell, with a considerable basis of historical analogy. The Society for Nautical Research in England had called its journal The Mariner's Mirror after the great sixteenth-century collection of nautical charts. For an American counterpart of The Mariner's Mirror it seemed appropriate to adapt to American use the name of the principal eighteenth-century compilation, The Atlantic Neptune.

To give a sound basis for the business side of the venture, and to avoid a suggestion of regionalism which might have been imputed had the journal been published by the Peabody Museum Marine Associates, the group applied for incorporation, and The American Neptune, Incorporated, received its charter from the Commonwealth of Massachusetts

in the autumn of 1940. Publication began in January 1941, and the rest of the story is already familiar to readers. It seems very unlikely, however, that without the enthusiasm and drive furnished by Lincoln Colcord it would have been possible, in a matter of fourteen months, to bring together a group of people from widely scattered parts of the country and gain their support in such an enterprise.

Throughout the past seven years Link Colcord constantly aided the NEPTUNE *by advice and criticism of manuscripts. His own contributions were fewer than I could have wished, for the extent of his correspondence, and the remarkable number of friends who appeared in person in the back yard at Searsport, left him little time for writing. I was one of the many callers who at all seasons were liable to distract him. Whenever I have drawn up beside his gaunt old yellow house, and paused momentarily to look out to a sea whose intense blue was matched by that of the delphiniums in the grass, I have always been visited by a sense of anticipation—an anticipation that each time was unfailingly rewarded. Since Link's death I have reflected often on that feeling, and have wondered whether it has not been shared by many of his friends.*

To meet him was to be aware of the vitality of the man. Gusto is the only word for it. He met life eagerly, equally alert for the savor of a situation, a dish of food, a bottle of rum, an anecdote, or a stretch of landscape. Whatever ills Link had gallantly encountered—and he had stood up to his fair share—boredom was not one of them.

As one's friendship with him grew, to that first impression of unique vigor there was added a second. This was that his boyhood years at sea had been all-significant for him. Through them he had established, somehow, a private quarter-deck of the mind, from which he passed judgment on men and things. With characteristic fairness, though, he was more than willing to allow each of his fellow men a similar retreat. Many a time I have heard him express apparent approval of behavior which I knew must have been distasteful to him. But stronger in him than any distaste was his respect for the rights of the individual. Much that was strange or perverse he would tolerate, provided only it arose from wholehearted conviction; contrariwise his scorn for affectation and pettiness

was blistering. I think it was really this all-engrossing concern for the independence of the individual that led him to decry our contemporary processes of regimentation, and to exalt the past, particularly the seafaring past of New England, which, to his imagination, had fostered the hardihood of man.

And lastly, all who knew Link must have recognized as an adjunct of his fervent and independent spirit, his love of talk. Thoughts and fancies we wished he would take time to write brimmed over in conversation, such conversation as we shall not hear again. He dearly loved an argument. Consistency being no vice of his, it did not disconcert him in the slightest to make a rightabout-face with no warning and absolutely no apology. That was all part of the game. I have said that many of us wished he would write as he had spoken. A natural feeling, no doubt, but perhaps a mistaken one. For all of us, his friends, he by his manner of talking fulfilled the function of breathing life into a faltering idea, of renewing our courage in ourselves, and heartening us for action.

During my last visit in September 1947 we drove to Mount Desert Island for a glorious day's sail in Sam Morison's Emily Marshall, *and when we returned to Searsport for more talk, in which Waldo Peirce joined, there was no thought that the plans we discussed would not be brought to completion. Link's death in the hospital at Belfast, very early Sunday morning, 16 November, was entirely unexpected. His funeral took place Wednesday afternoon in the Congregational church at Searsport. Sam Morison and I took the morning train from Boston to Rockland. It was late in arriving, and when we reached Rockland the sun was already low. As we drove along the shore of Penobscot Bay, the setting sun, reflected from the water, cast a radiant purple mantle over the hills and the islands. This sad but triumphant autumn afternoon was one that Link would have loved, and as we reached the church in Searsport in the twilight we felt that it was such a day as he would have chosen to show his own country at its best. 'So he passed over, and all the trumpets sounded for him on the other side.'*

WALTER MUIR WHITEHILL

Henry Eckford's United States *of 1831*

BY CEDRIC RIDGELY-NEVITT

PLANS of ships built by Henry Eckford are, unfortunately, very rare. The lines of his *United States* are, however, still extant at Webb Institute of Naval Architecture. The accompanying drawing, traced from the original, shows her to be an extremely interesting vessel with an unusually fine midship section and a round stern.

In addition to the lines drawing, the half model of *United States* is in the Webb Collection, together with two other models (all three are without labels or dates), almost certainly the work of Eckford. They are similar in showing his idea of obtaining speed by means of great deadrise. Some of the authors who have written so much nonsense about the unique introduction of deadrise and its contribution to speed in the early clipper ships would profit by tracing Eckford's influence, through such vessels as *Ann McKim,* the slaver *Diligente,* and the ship-sloop *Albany,* to extreme clippers like *Nightingale* and *Challenge.* It must be remembered that Eckford was, probably, the most original and successful designer of his time and that many of his apprentices became the great shipbuilders of the next generation and carried on his idea.

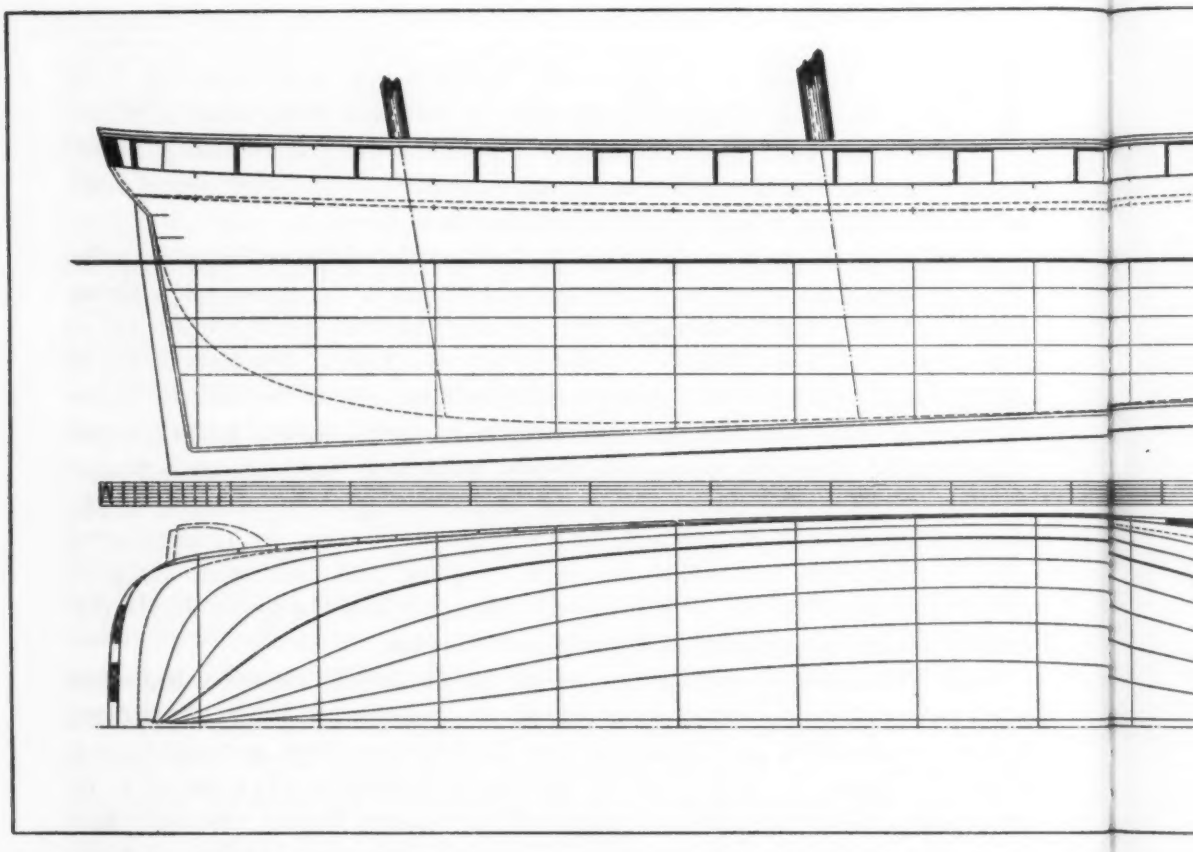
Mrs. Wheelock, in her recent article on Eckford,[1] has recorded what little information is readily available about this splendid ship. Apparently her construction and departure for Turkey were kept as quiet as possible. Dr. James E. DeKay, in his *Sketches of Turkey in 1831 and 1832* is, chronologically, a very poor reporter of her voyage. In fact, the only date mentioned is 16 July, when she was off the Sicilian coast. He does, at least, show that she made the Azores in ten days from New York and Gibraltar in 20 days with a fair wind.

Thereafter, she spent a week beating against adverse winds. These were followed by a series of calms, and more head winds that resulted in

[1] Phyllis DeKay Wheelock, 'Henry Eckford (1775-1832), an American Shipbuilder,' THE AMERICAN NEPTUNE, VII (1947), 186 ff.

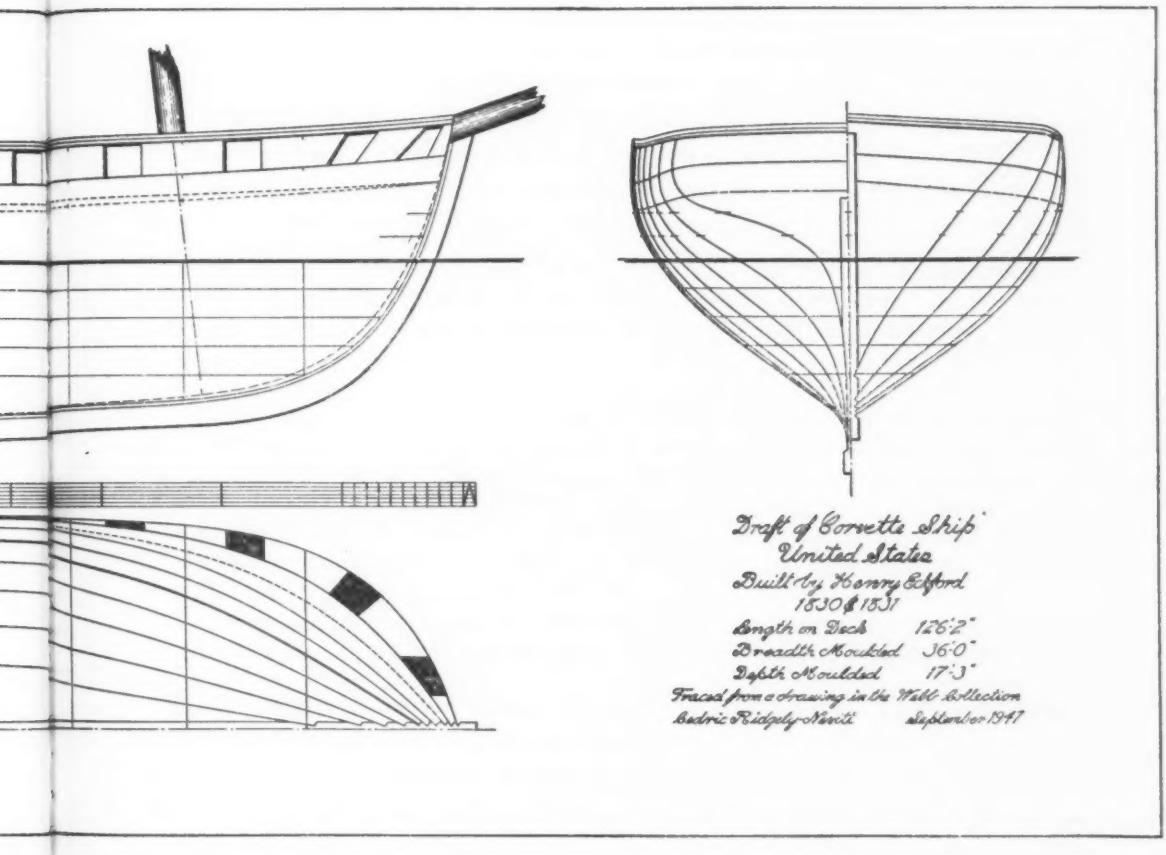
slow progress through the Mediterranean. A very approximate summary of her trip follows:

5 June	Sailed from New York	25 July	Off Crete
15 June	Passed the Azores	26 July	Race with *Constellation*
25 June	Passed Gibraltar	3 August	In the Dardanelles
10 July	Off Sardinia	7 August	Through the Hellespont
16 July	Off Sicily	10 August	Sighted Constantinople



During the latter portion, considerable time was spent at anchor, with her passengers enjoying sightseeing trips ashore. DeKay does give indications of her speed and displays his belief that she was an extremely fast ship. Mrs. Wheelock has reported her speed trial with *Constellation,* a much longer and, hence, a potentially faster ship. At that time both were under the same sail and close hauled with a very fresh wind and a heavy

sea. When beating to windward, after passing Gibraltar, he records: 'Our greatest pleasure is sailing faster than anything we fall in with. . . .' Again, beating against wind and current in the D'Oro Passage to the Aegean, she overtook and passed an unidentified English sloop-of-war. And, finally, when a favoring wind arrived, to make a passage through the Dardanelles possible, *United States* led a fleet of almost a hundred


Draft of Corvette Ship
United States
Built by Henry Eckford
1830 & 1831
Length on Deck 126'2"
Breadth Moulded 36'0"
Depth Moulded 17'3"
Traced from a drawing in the Webb Collection
Bedric Ridgely Nevitt September 1947

ships through the straits. Although DeKay might be somewhat prejudiced in her favor, the Turkish authorities were impressed enough to purchase her for $150,000, an extremely good price for such a small ship.

The original lines drawing bears only a pencilled identification; the author has scaled the principal dimensions from the plan. DeKay gives an armament of 26 guns and the size as 1000 tons without specifying what

kind of tons he refers to. The quarter galleries, shown in dashed lines in the half-breadth plan, are sketched in, in pencil, in way of a gunport. As another later addition, some disapproving hand has written around the body plan, 'should not be so much deadrise.'

The Designs of Our First Frigates

BY M. V. BREWINGTON

IT was the thirteenth day of December 1775. In the State House at Philadelphia the delegates to the Continental Congress were voting on one of the most important measures yet to come before them. The last 'aye' or 'nay' was tallied and the Honorable John Hancock rapped his gavel. After weeks of bickering, sectional log rolling, and personal feuding the resolution urged by the Rhode Island delegation to build an American Navy had passed.[1] That night Charles Thomson, the Secretary of Congress, entered the resolution in the smooth copy of the Journal. In part it read:

> That five ships of thirty-two guns, five of twenty-eight guns, three of twenty-four guns, making in the whole thirteen, can be fitted for sea probably by the Last of March next, Viz: in New Hampshire one [*Raleigh*, 32], in Massachusetts bay two [*Hancock*, 32 and *Boston*, 24], in Rhode Island two [*Warren*, 32 and *Providence*, 28], in Connecticut one [*Trumbull*, 28], in New York two [*Montgomery*, 28 and *Congress*, 24], in Pennsylvania four [*Randolph*, 32, *Washington*, 32, *Effingham*, 28, and *Delaware*, 24], and in Maryland one [*Virginia*, 28].
>
> That a committee be appointed with full powers to carry the above report into execution, with all possible expedition at the expence of the United Colonies.[2]

With the decision once made Congress lost no time. The Committee, thereafter known as the 'Marine Committee,' was selected, one member from each of the thirteen colonies. It went to work with enthusiasm. The members from the more distant colonies where ships were to be built dispatched letters to their provincial governments and constituents asking for advice on the best locations and the best men to undertake the work.[3]

[1] Peter Force, *American Archives*, 4, III, 231 (hereafter *Archives*); THE AMERICAN NEPTUNE, I (1941), 26-41.

[2] Journals of the Continental Congress, 13 December 1775. (Since many editions are easily available citations will be by date of entry. Hereafter *Journals*.) The frigates were not named until 6 June 1776 when the Congress itself made the selection and empowered the Marine Committee to assign them to each ship. See *Journals* 6 June 1776. For the sake of clarity, however, the names will be used.

[3] New York Public Library, Bancroft Collection, Livingston Papers, I, 130; Connecticut Histor-

As this information was being assembled, the organization for building the frigates was formed. In Philadelphia, to which was assigned 'double the number [of vessels] of any other Colony, which was claimed as due to our Ship Carpenters who are more numerous,' no time need be wasted with letters.[4] Supervising the whole business were the 'Commissioners for Building the Philadelphia Frigates' with Robert Morris, the Pennsylvania member of the Marine Committee as chairman. Functioning under the commissioners were several committees, each with particular duties. The first consisted of four master ship-carpenters who were appointed 'Timber Commissioners' and soon were advertising 'Ship Timber Wanted Immediately.'[5] A second committee of four ship chandlers, nominated 'Commissioners of Naval Stores' were seeking supplies of rigging and stores in the warehouses along the Delaware River. A like number of merchants, the third committee, were appointed as 'Commissioners of Account' to keep records of the expenditures. And finally, and most important, four of the best-known Philadelphia shipwrights were given the task of building a frigate apiece. Each of the shipyards was allotted a superintendent and a clerk whose duties were to provide skilled labor and then to keep it busy. To each frigate was assigned one representative from each of the committees to see that the materials were obtained and sent to the yard when needed. That left the master shipwrights entirely free to devote all of their time to their job: shipbuilding.[6] Frigate number one, *Washington,* was to be built by Manuel, Jehu and Benjamin Eyre.[7] Frigate number two, *Randolph,* was assigned to Wharton & Humphreys.[8] Frigate number three, *Effingham,* was given to Bruce & Co.[9] Frigate number four, *Delaware,* was built by Warwick Coats.[10] *Washington* and *Effingham* were built in Kensington; *Randolph* and *Dela-*

ical Society, *Collections,* II, 345 (hereafter Col. CHS); E. C. Burnett, *Letters of Members of the Continental Congress* I, 282-283 (hereafter Burnett).

[4] Historical Society of Pennsylvania, Joshua Humphreys Correspondence II, 1 (hereafter Humphreys) *Proceedings of the United States Naval Institute,* 62, 991-994 (hereafter USNI).

[5] *Pennsylvania Packet,* 8 January 1776.

[6] Papers of the Continental Congress, 78, 24, 331; Humphreys, II, 1; U. S. Naval Academy Museum MSS. Collection, Robert Morris Memorandum 1776; USNI, 62, 991-994.

[7] Boies Penrose, Esqr. Family Mss., Penrose Shipyard Note Book; Peabody Museum, Fox Papers #939 (hereafter Fox); USNI, 62, 991-994. Until named the Philadelphia frigates were known by numbers—perhaps the origin of the Navy's system of numbering vessels.

[8] Humphreys, II, 1; Fox # 939.

[9] Historical Society of Pennsylvania, Christopher Marshall Diary, 11 April 1776. The name is probably incorrectly written and should be 'Grice & Co.' No 'Bruce & Co.' can be found in any contemporary Philadelphia records or tax lists. On the other hand, the MS. Autobiography of Joseph Grice states that his father built vessels for the Continental Navy and that he, Joseph, worked on the *Effingham.*

[10] Author's Collection, Humphreys MSS.

ware in Southwark, then both more or less autonomous sections of Philadelphia.[11]

In the other ports where two vessels at the most were to be built no such complex organizations as that used at Philadelphia were necessary. In New Hampshire the building of *Raleigh* was entrusted by Josiah Bartlett, the New Hampshire Marine Committeeman, to John Langdon, ex-member of Congress and a well-known Portsmouth shipping merchant.[12] He farmed out the construction work to James Hackett, Stephen Paul and James Hill with Thomas Thompson as superintendent, the title given to the 'Government inspector.'[13] A clerk of the yard was also appointed, and Langdon himself acted as the local chief of procurement and handled the accounts.[14] In Massachusetts the work was given to Thomas Cushing, a political henchman of John Hancock, the Massachusetts Marine Committee member. Cushing let the contract for the building of *Hancock* and *Boston* to Jonathan Greenleaf and Stephen and Ralph Cross. Both frigates were built at Newburyport. Although the contract was a joint instrument, Greenleaf seems to have built *Hancock* and the Crosses *Boston*.[15] Cushing, like Langdon, held the purse strings and John Avery and John Odin acted as superintendents.[16]

Down the coast in Rhode Island two frigates were to be built. This seems so to have taxed the energy of the Colony, or else so aroused the cupidity of its politicians that it was necessary for Stephen Hopkins, the Rhode Island Marine Committeeman, to appoint a board of eleven men to undertake the work. Nicholas Cooke, the governor of the colony, was elected chairman and more persons were told off to perform various small duties of procurement than can be mentioned here. Suffice to say that eventually the whole organization broke down and after severe censure the work of completing the frigates was placed in the hands of one man, Daniel Tillinghast. The actual work of building the frigate *Warren* was given to Benjamin Talman while Sylvester Bowers took charge of *Provi-*

[11] Burnett, I, 335.

[12] Burnett, I, 282; Library of Congress, Force Transcripts, William Whipple Correspondence, I, 87 (hereafter Whipple). Bartlett was ill or otherwise absent from the Committee a great deal of the time when the frigates were being developed; his place was taken by another of the New Hampshire delegates, William Whipple.

[13] Connecticut State Library, Gurley Papers (hereafter Gurley).

[14] Whipple, I, 83.

[15] Library of Congress, Letter Book of the Navy Board Eastern District. To Board of Admiralty, 8 February 1781.

[16] Historical Society of Pennsylvania, Etting Collection, I, 27 (hereafter Etting); Massachusetts Historical Society, Hancock-Cushing Correspondence, 1 February 1776 (hereafter Hancock); U. S. Naval Academy Museum MSS. Collection, Cushing to his son, 14 October 1787.

dence. Both frigates were built at Providence.[17] In Connecticut the frigate *Trumbull* was entrusted to Barnabas Deane by his brother Silas Deane, the Connecticut member of the Marine Committee, with John Cotton actually doing the construction work in a yard at Chatham.[18]

The New York frigates, *Congress* and *Montgomery*, were built by Lancaster Burling at Poughkeepsie under the supervision of Samuel Tudor and Augustus Lawrence respectively. Francis Lewis represented New York on the Marine Committee and seems to have supplied much of the sails, rigging, and chandlery.[19] But the whole business was under a commission, only one of whose members has been identified, Jacobus van Zandt.[20] In Maryland the business of building the frigate *Virginia* was handled by a committee of four men headed by Samuel Purviance, Jr. The committee, appointed by Samuel Chase of the Marine Committee, took charge of all materiel procurement and accounting and gave the construction work to Captain George Wells with Jesse Hollingsworth acting as superintendent.[21] The frigate was laid down at Fells Point because as a British spy wrote of Baltimore 'the situation is exceedingly inconvenient. Ships cant come within a mile of the town . . . to a place called Fells point.'[22]

While perfecting the local organizations for building the frigates, the Marine Committee was in daily session at Philadelphia, making decisions concerning the vessels to be built, their design, equipment and armament. Although not one of the thirteen men on the Committee could have qualified as a shipbuilder, most of them were ship-owners and some had been well acquainted at first hand with fighting ships as owners of or as officers on privateers in the wars with the French and Spanish. Their advice was probably as good as the colonies could have had at that time. Just how the Committee selected its designer is not known today but their choice seems to have been a good one.

The person was Joshua Humphreys, a twenty-four-year-old Philadelphia Quaker shipwright.[23] He was the partner of John Wharton, a

17 *Magazine of History*, VIII, 251, 317; IX, 1, 198.

18 Connecticut Historical Society, Barnabas Deane Papers; C. O. Paullin, *Outletters of the Continental Marine Committee*, I, 2; L. C. Middlebrook, *Maritime Connecticut*, II, 265.

19 *Public Papers of George Clinton*, I, 225-226 (hereafter Clinton); Papers of the Continental Congress, 37, 333, 337.

20 *Archives*, 5, III, 204-205.

21 *Maryland Archives*, XII, 200-201, 207, 270; Burnett, I, 333; Maryland Historical Society, Portfolio 8. Chase was sent on a mission by Congress soon after the Marine Committee was organized and his work with the Maryland Committee was taken over by Joseph Hewes, the North Carolina Marine Committee member.

22 A. G. Bradley, *Journal of Nicholas Cresswell*, 15 September 1776.

23 Humphreys, I, 22.

member of the Pennsylvania Committee of Safety, and more important, a close friend of Robert Morris, one of the most influential members of the Marine Committee. Humphreys had been apprenticed about 1765 to James Penrose, a well-known Philadelphia shipbuilder who in 1762 had built the privateer *Hero* whose exploits during the French and Indian War were by-words in Philadelphia. In 1771 Penrose died, and Humphreys, even though he had not yet completed his apprenticeship, was given the job of running the shipyard. Three years later, Humphreys rented the yard from the Penrose Estate and formed the partnership with Wharton. At the outbreak of the Revolution Humphreys was without practical experience as a naval designer except for what he may have learned from Penrose, but he undertook the conversion of the little fleet of merchantmen which became *Alfred, Columbus, Cabot, Andrew Doria* and *Providence,* each a successful vessel of the Continental Navy.[24] Later he built two gunboats for the Pennsylvania state navy, and for the Continental Navy the ship-sloop *Saratoga,* the packet brigantine *Mercury,* and designed at least one of the 74-gun ships.[25] In 1794 it was Humphreys who became the first Constructor of the United States Navy and in that capacity originated its first building policy.[26]

Thirty-one days after Congress had passed the resolution to build a navy, Humphreys laid the 'draughts of the several ships of war' before the Marine Committee. A careful study brought the Committee's approval and copies 'one for each of the Contractors [were ordered] to be forthwith made out.' [27]

No plans for the smallest, the 24-gun frigates, are known to exist. In the 28-gun class the drawings of but one have been found, those of *Virginia.* (Plates 1, 2) She was measured by the British Navy Board and the resulting plans are preserved in the Admiralty Collection, now in the National Maritime Museum, Greenwich.[28] There were five vessels of this class built but of the other four so little is known that only a statistical basis for comparison exists. Plans of three of the 32-gun class have been preserved: two are in the Admiralty Collection, *Hancock,*[29] (Plates 3, 4)

[24] Historical Society of Pennsylvania, Wharton & Humphreys Ledger.

[25] Historical Society of Pennsylvania, Dreer Collection, Humphreys Dock Yard Note Book. The brigantine *Mercury* is not to be confused with the Continental ketch of the same name built by John Peck.

[26] Ira N. Hollis, *The Frigate Constitution,* 34 ff.

[27] Whipple, I, 83.

[28] 'Virginia of 32 Guns taken off at Chatham November 1782' Box 39, Regd. 2351.

[29] 'A Draught of His Majestys Ship Iris as taken off at this Yard in June 1779—Plymouth Yard October 21st 1779' Box 38, Regd. 2285.

and *Raleigh;*[30] (Plates 5, 6) and one, *Randolph,* (Plate 7) is now in the National Archives.[31] This last is the only original plan known to exist.[32]

An examination of these drawings would induce the belief that individual designs had been created for each frigate. *Hancock* is different in all respects from *Raleigh.* And neither could be called an identical twin sister of *Randolph. Virginia,* however, while of a different class is quite similar to *Randolph.* One is, therefore, inclined to be somewhat awestruck at the ability of Joshua Humphreys to turn out individual designs for thirteen frigates within thirty days. For the sake of a remarkable achievement one wishes it were true. But in fact he did nothing so notable: as a maximum he created three distinct designs, one for each class of frigate.[33] As a minimum he drew one design, perhaps for the 24-gun class and then enlarged slightly for the 28-gun class and still more for the 32-gun class.[34]

Copies of the designs, as we have seen, were ordered for the use of the various builders. These men, scattered from Portsmouth, New Hampshire to Baltimore, were instructed to follow the plans closely and no orders were sent to one builder without similar instructions going to the

30 'A Draught of His Majestys Ship Raleigh as taken off at this Yard in July 1779—Plymouth Yard October 21 1779' Box 40, Regd. 2400.

31 Bureau of Construction & Repair, United States Navy #31-4-45.

32 The lines of only *Raleigh* and *Hancock,* both redrawn, have been published. No plans other than those mentioned have come down to us apparently. A midship section of *Randolph* is listed in the Bureau of Construction & Repair Index to Plans, drawing #108-12-1B, but the drawing itself has disappeared.

33 Hancock, 13 February 1776.

34 No basis for the designs of the three classes of vessels can be determined. Until the outbreak of the Revolution our shipbuilders had had very little experience in designing men-of-war. A few such vessels had been built in the colonies for the Royal Navy, notably at Portsmouth, New Hampshire, Boston, and New York, but in all probability the designs for these had been sent over from England. For an account of the naval shipbuilding around Portsmouth see G. H. Preble, *History of the U. S. Navy Yard,* Portsmouth, New Hampshire (hereafter Preble). The nearest approach to fighting ships of truly American origin were those vessels built specifically as privateers during Britain's wars with France and Spain. One such was *Hero,* built at Philadelphia in 1762 by James Penrose, Joshua Humphreys master. Her principal dimensions were 120 feet 6 inches by 95 feet 6 inches by 32 feet 6 inches by 10 feet 6 inches. See Penrose Ship Yard Note Book and Humphreys Dock Yard Note Book. Compare these with the dimensions of the 24-gun class of frigate as represented by *Delaware,* 119 feet by 96 feet by 32 feet by 10 feet 6 inches. The agreement is so close that knowing the imperfection of the measuring devices and the methods by which lines were developed in the late eighteenth century, one might be inclined to rest content at least for the design basis of that class. No bases, however, for the 28- and 32-gun classes have been found. In both the Penrose and Humphreys Note Books are the complete tabulations of all the British 'Establishments' from 1719 on. A search through these discloses that none of the three classes rested firmly on the British Establishments. Similarly the specific dimensions of several vessels of the Royal Navy, such as H.M.S. *Garland* and H.M.S. *Squirrel* also tabulated while close in some respects are too far away in others to warrant taking them as being the foundation for the designs. The dimensions of both the hull and spars of H.M.S. *Pallas* were, we know, put into the hands of the Rhode Island, Connecticut, and New Hampshire builders and as we will see later were used to some extent in two instances, but it does not appear that *Pallas* was the prototype of the design.

Likewise comparisons of the vessels used in the French works on naval architecture owned by Humphreys also fail to disclose a definite basis for the designs of any of the three classes. In default, then, of a design which Humphreys could have followed, the work should be at least tentatively attributed as original thought.

others.[35] How, then, can one account for the wide differences in the extant designs of vessels of the same class?

On 2 February 1776 the copies were in the hands of the members of the Marine Committee.[36] But an unexpected obstacle prevented getting them to some of the builders outside Philadelphia. What Bartlett wrote to Langdon of the plan of *Raleigh* is typical, 'Its so large I know not how to send it to you, it cannot be sent in a letter and what other way . . . I know not. . . .'[37] Ten days passed before a safe means of transportation was found for the draughts intended for Massachusetts and New Hampshire. A messenger (ironically his name was John Bull) was going from Philadelphia to Cambridge with money for the Continental Army. In the vehicle with him was a letter from Hancock to Cushing covering 'Two Drafts for the Ships & beg the closest Attention may be paid to them' and 'Dimensions &c of the Ships for your Guide.' Along with the plans for *Hancock* and *Boston* also went a 'Plan for Mr Langdon of Portsmouth . . . do forward it to him. . . .'[38] All of these plans were received by Cushing at Watertown, Massachusetts on 26 February 1776. He in turn dispatched them to Greenleaf and the Crosses at Newburyport with instructions to in their turn send *Raleigh's* plans on to Langdon by post rider.[39]

In the delays in transmitting Joshua Humphreys' drawings to the contractors lies the reason for the variations in the designs.

Despite specific instructions 'to build rig, equip, and fit for sea . . . according to your discression except where you have particular orders,' and the orders were definite as regards the hulls, John Langdon on 26 February 1776, the very day the plans of *Raleigh* arrived at Watertown, wrote: 'I have got no Draught of the Ship as yet—but *we are going on with one of our own drawing* by the Dimentions which I bro't down . . . dont Cramp my Genius and the ship shall be Launched soon.'[40]

There, of course, is the answer to the wide difference between *Raleigh* and the standard 32-gun frigate. Langdon et al, had simply ignored the Marine Committee and had created their own design. The basis, so Langdon said, was the table of dimensions brought by him from Philadelphia, those of H.M.S. *Pallas*. But it is obvious these were not followed as can be seen by comparing the tabulation made by Thomas Thompson, super-

[35] Whipple, I, 85; Hancock, 13 February 1776. Humphreys, II, 1; USNI, 62, 991-994.

[36] Whipple, I, 83; Hancock, 1 February 1776.

[37] Whipple, I, 83. The original plan of *Randolph*, and that for *Raleigh* must have been of equal size, is 24 inches by 60 inches and the sheet shows signs of having been trimmed in recent years.

[38] Whipple, I, 85; Hancock, 13 February and 16 February 1776.

[39] Etting, I, 27.

[40] Whipple, I, 85; *New England Historical and Genealogical Register*, XXX, 309-310. The italics are the author's.

intendent of construction, or the tabulation on the Admiralty draught of *Raleigh* with the dimensions of *Pallas*.[41] The result was the smallest of the 32-gun frigates but the design with its closed bow and other improvements was twenty years in advance of the others in the same class.[42]

Now who were the 'we' who were 'going on with one of our own drawing'? It is hardly likely Langdon was more than a nominal part of the 'we.' So far as is known he never designed a vessel. He was not a professional shipbuilder but a merchant who as John Paul Jones remarked was 'bred in a shop and hath been but a voyage or two at sea under a nurse.'[43] The logical man was James Hackett, but too little is definitely known of his career and his work has been too confused with that of his cousin William and his uncle John to warrant the statement that he could have been actually capable of the design of *Raleigh*. He was a shipbuilder by trade and prior to the building of *Raleigh* had designed so far as is known nothing more than a row galley for New Hampshire.[44] Following the frigate he built the continental ships *Ranger* and *America* and the privateers *Portsmouth* and *Bellona,* and later the frigates *Crescent* and *Congress,* the ship *Portsmouth* and the revenue cutter *Scammel*. But of these he could have designed only *America* and *Ranger* and her sister ships the privateers *Portsmouth* and *Bellona,* because the designers of the others are definitely known to have been other men. From the little we know of *America,* it is likely her designer will be proved to be someone other than James, leaving only *Ranger*. Chapelle, without citing his authority, states that *Ranger* was designed by William Hackett, thereby leaving James completely out of the design phases.[45] All of this seems to indicate that James Hackett was well equipped by experience only as a shipbuilder, not as a designer. Of the other partners working on *Raleigh,* nothing is known of Stephen Paul's capabilities; James Hill was well known as a shipbuilder twenty years before *Raleigh* was laid down, but again nothing is known of his designing

41 Gurley; R. C. Anderson to the author in re *Pallas*.

42 A study of the dates easily disproved the often repeated yarn that *Raleigh* was laid down on 21 March (almost a month after the receipt of the committee's draught) and launched in sixty days. See Preble, 12; Walter E. H. Fentress, *Centennial History of the U. S. Navy Yard at Portsmouth,* 12; Nathaniel Adams, *Annals of Portsmouth,* 262; H. I. Chapelle, *History of American Sailing Ships,* 57; William G. Saltonstall, *Ports of Piscataqua,* 96. The sixty days meant just what the original source, the *New Hampshire Gazette,* 25 May 1776 said: 'Working days.' That would have made the keel-laying not later than 13 March 1776 and depending on the weather perhaps even earlier than 26 February. Langdon was thoroughly aware that plans were being drawn in Philadelphia. He was a member of Congress and had been in Philadelphia from 23 December to about 31 December 1775. Not even he with his self-styled genius would have dared violate his instruction 'to build . . . the ship . . . according to your discretion, *except* where you have particular orders' and the orders as well as the Philadelphia drawn plans were in his hands by 21 March.

43 Quoted by Lincoln Lorenz, *John Paul Jones,* 117.

44 *New Hampshire State Papers,* VIII, 48.

45 Chapelle, op. cit., 59.

experience.[46] There are enough superficial similarities between the designs of *Raleigh* and U.S.S. *Essex* which we know positively was designed by William Hackett, to bring his name into consideration also although he is never mentioned in connection with *Raleigh* in any source.[47] However, until some unimpeachable evidence comes to light, the designer of *Raleigh* must remain anonymous.

Precisely the same course of events which led to the design of *Raleigh* by the unknown at Portsmouth took place with the Rhode Island frigates. The plans did not arrive from Philadelphia and the over-zealous Committee proceeded to hire a designer of their own.[48] He was Sylvester Bowers who was set to work to 'make a draught of the larger ship [*Warren*] as soon as may be.'[49] The architect for *Providence* is not mentioned in the Committee's journal, but as Bowers was appointed master workman on her, we can safely assume he was responsible for her design also.[50] A month after putting Bowers at work, the Committee, hearing rumors that the plans had been completed in Philadelphia and fearing the consequences of their haste, dispatched a messenger to Connecticut to borrow the plan of the ship to be built there.[51] When he arrived, Deane refused to accommodate the Rhode Islanders because he needed the plan himself and the messenger returned empty handed. Finally the Rhode Island plans did arrive in Providence on 19 February and the Committee decided 'on Examining the same we find it impossible to follow the Draught sent us without retarding the Work at Least one Month' and then to show their repentance for their haste 'Voted, That Messrs Bowers and Talman proceed to finish the Bottoms of the Ships according to their present models and that they finish the upper Work Nearly according to the Directions sent in. . . .'[52] In size *Warren* corresponded almost exactly with *Raleigh*, thanks perhaps to the dimensions which Langdon 'bro't down' to Portsmouth being the same as those Stephen Hopkins of the Marine Committee sent the Rhode Island committee. *Providence* was within a very few inches the same in her principal dimensions as *Virginia*.[53] Although the British had an opportunity to take off the lines of one of the vessels, *Providence*, if they did so the drawings cannot be found today, and we are unable to

[46] Wellesley College Library, James Hill MS. Diary and Note Book.
[47] Peabody Museum, Waters Papers, Hackett's Bill.
[48] Etting, I, 27.
[49] *Magazine of History*, VIII, 315.
[50] Ibid., IX, 1.
[51] Ibid., IX, 63.
[52] Ibid., IX, 64; Etting, I, 27.
[53] *Magazine of History*, VIII, 317.

determine what the Rhode Island bottoms and Philadelphia topsides may have been like. Whatever they may have been like, credit or debit should go to Sylvester Bowers.

In the other New England colonies, Massachusetts and Connecticut, the business took another turn. Neither Cushing, Greenleaf and the Crosses nor Deane and Cotton laid any claim to the genius of Langdon or the zeal of the Rhode Islanders.[54] John Cotton, the Connecticut master builder, probably had the plans by 8 February but at any rate reported on 27 February 1776 that 'yesterday we made a beginning in the Yard to fix a Berth for the Ship to Stand in but the rain putt us of[f] . . . this Day we Expect Mr Ames and Others in Order to take of[f] [i.e., lay down] the Draught.'[55] Thanks to locally inclement weather the Humphreys plan had had ample time to reach the builder before any construction could be started and apparently the plan was closely followed; at least her breadth and depth of hold, the only definitely known dimensions of the frigate, were exactly the same as the others of her class.[56] Little more is known concerning *Trumbull,* however; the original copy of her plans has not come to light and when captured by the British, the Royal Navy Board surveyors did not consider her worth buying into the service and hence did not take off her lines.

With John Hancock, President of the Continental Congress, member of the Marine Committee and political boss of Massachusetts, as his mentor, Thomas Cushing was kept well informed about everything going on in Philadelphia. Cushing, like Langdon, had been a member of Congress and had been in Philadelphia when the plans were being prepared and he made no move towards having the plans for the vessels to be built in Massachusetts drawn locally. He simply bided his time like the good bureaucrat he was and eventually on 26 February the plans arrived. Four days after they reached his hands, he journeyed over to Newburyport and signed a contract with Jonathan Greenleaf and Stephen and Ralph Cross 'to build with the utmost dispatch two Ships for the Account of the Thirteen United Colonies Agreeable to the Draught & Directions which the said Thomas [Cushing] hath Deliver'd to them. . . .'[57]

This contract is worth close study. So far as is known it is the only extant document of this kind. In many respects it is general rather than specific and while details were covered in some instance, it had to be followed

[54] Col. CHS, II, 351.

[55] Ibid., XXIII, 16-17; Deane Papers, 27 February 1776.

[56] Col. CHS, XXIII, 16-17.

[57] This contract, once in the collection of Dr. A. S. W. Rosenbach, is printed by his permission in full as an appendix.

by another document (location, if still in existence, unknown) which Hancock sent north from Philadelphia on 7 March 1776. It gave 'Dimensions of everything necessary for your Guidance in matters respecting the Ships & other Appurtenances.' In addition Hancock wrote 'what further Occurs to you necessary, let me Know & the Directions shall be transmitted you,'[58] all of which shows the guiding hand from Philadelphia. It should be especially noted that the builders in both Massachusetts and Connecticut were particularly enjoined that the vessels were 'to be built as near as possible to the draughts & directions. . . .' In the light of all the evidence extant, i.e., the correspondence, the contract, and the dimensions of the vessels themselves as built, the plans were followed and to Humphreys should go the credit for the designs of *Hancock, Boston,* and *Trumbull.*

In New York the progress of the frigates *Congress* and *Montgomery* seems to have paralleled that of *Trumbull* in Connecticut. Ice in the Hudson River delayed the collection of timber and other materials at the building yard in Poughkeepsie and it was not until 7 March 1776 that ship-carpenters arrived from New York City to begin work. This allowed ample time for the Humphreys plans to reach Messrs. Tudor and Lawrence. But whether the plans were followed is another matter, one on which there seems to be no direct evidence extant.[59] Just about all we know is that considerable delay was experienced in building the vessels, thanks to strikes for higher wages by the carpenters and to the diversion of workmen and materials from the frigates to the construction of Arnold's fleet and the New York State galleys.[60]

Very little correspondence concerning the Philadelphia-built frigates has been preserved (it is hardly likely much ever existed) to show what the four frigates were like. The statistical evidence does establish that the 32-gun frigates *Randolph* and *Washington* were as nearly identical as two vessels of their size built by different builders could be.[61] Nothing is known about *Effingham* but *Delaware* in her measurements was very close to those in the contract for *Boston,* her paper sister. With builders as well as the designer to say nothing of the Marine Committee and the various building committees all in the same city; with no transportation problem to solve for the plans; and with the injunction to 'Conform as Stricktly as possible to both the draft and dimentions' in all probability the origi-

[58] Historical Society of Pennsylvania, Conarroe Collection, Hancock to Cushing 7 March 1776. A duplicate is in the Massachusetts Historical Society.

[59] *History of Dutchess County,* 348; Clinton, I, 225-226.

[60] *Archives,* 4, VI, 1122-1123; Clinton, I, 285-287.

[61] Fox #939.

nal designs were closely followed. Therefore it seems a safe inference to credit Humphreys with the designs of all four of the Philadelphia frigates.[62]

While little of the correspondence of the Marine Committee with the Maryland committee relating to the plans has come to light, there seems to be no question but that the Humphreys design was used and closely followed. Transportation between Philadelphia and Baltimore was well organized and consequently no difficulties arose in sending the plans down to Wells. Work on the frigate got off to a slow start for on 27 March timber was still being collected and on 10 April the committee was still trying to find knees. But by 2 May almost every ship-carpenter in the province except those in Somerset County had been engaged for work on the frigate, and once the work got under way no time was lost, for on 12 August *Virginia* was launched.[63] A mere glance at the plans of *Virginia* drawn at Chatham, England, in 1782 and at the Wharton & Humphreys draft shows clearly that *Virginia* and *Randolph* were built from the same basic design.

Such was the story of the designing of the vessels of our first naval construction program. In it are to be found all the elements of almost every wartime shipbuilding adventure on which we as a nation have embarked: boundless enthusiasm and energy; exasperating delays and lack of experience; waste and labor troubles; and then the final emergence of men of war which even our enemies admit are more than adequate for the business in hand. On the basis of the known evidence credit for the designs of these first frigates should be given to three men: that of *Raleigh* to an unknown, probably William Hackett; those of *Warren* and *Providence* to Sylvester Bowers; and those of the other ten to Joshua Humphreys.

APPENDIX A.

Contract to build the Continental Frigates *Hancock* and *Boston*

ARTICLES of Agreement made this First day of march 1776. Between the Honble Thomas Cushing Esqr. of Dedham. on the one part and Jonathn Greenleaf, Stephen Cross, and Ralph Cross of Newbury port shipwrights on the Other part. Witnesseth, That the Said Jonathan Stephen & Ralph hath Agreed with the Said Thomas to build with the utmost dispatch in Newbury port Aforesaid two Ships for the Ac-

[62] Humphreys, II, 1; USNI, 62, 991-994. The building of these vessels seems to have aroused more popular enthusiasm than any of the other vessels did. On several occasions as many as one hundred and fifty private citizens plus local militia companies voluntarily went to the shipyards and helped the workmen in such work as getting in the deck beams. See Historical Society of Pennsylvania, Christopher Marshall's Diary, 5, 6, 11, and 27 April 1776.

[63] *Maryland Archives*, XI, 295; XII, 200; *Maryland Journal*, 10 April 1776; Duke University Library, Samuel Purviance to General Lee.

count of the Thirteen United Colonies. Agreeable to the Draughts & Directions which the Said Thomas hath Deliver'd them, viz. The Length of the keel of the one Ship About Ninety six feet. Breadth of Beam About Thirty three feet Depth in the Hold About Ten feet six Inches. Between decks about four feet Six Inches. the Waist five feet. The Length of the keel of the other Ship About One hundred & eleven feet Breadth of Beam About thirty five feet, depth in the Hold about Eleven feet, depth Between Decks About five feet & five feet waist, the Said Ships to be built as near as possible to the draughts & directions Above mentioned & Referr'd to And the timber and plank to be of the best white oak, and free of Rots and defects. except in the bottom where they have Liberty to put some black Oak timber Only, And the decks which are to be Laid with good pine plank the Scantlens of timber and thickness of plank to be agreeable to the Directions Above Referr'd to, To find and make a Compleat Set of masts, Yards, Bowsprit. Topmasts and top gallant masts The main and fore mast of each ship to be Cheek'd with Oak in a good and workmanlike manner, to build a head & Galleries to each Ship. to find and make two Capstons to each Ship to fix & Step two pumps which work by hand in each Ship to find and fix a Sufficient number of Belaying Bitts, To find and fix Suitable pillars to all the Beams above and Below To find and fix a Rudder and Tiller to each Ship. to find & fix five Anchor Stocks for each Ship. To find Sufficient Stuff for the Companions & all the gangway and Other Ladders. To Caulk the Ships. To find & fix all the Stocks for the Swivel Guns. To find & Fix Seven pair Standards between decks and pointers over the transoms Abaft in a word to do and find all the Carpenters work in the finishing them off as a Ship of War Ought to be finished in a Good and Workmanlike manner, And to Launch Said Ships Safely a float the Small Ship in May the Large Ship in June 1776 And the said Jonathan, Stephen & Ralph Agree Allso to Stop all the Worm holes to Clear the timbers and hold of all the Chips, to pay both Ships with Turpentine to Grave both Ships After Launching., to Water both ships on the Stocks, to find Rum for the Labourers and to Launch Said Ships at their own Risque and Expence, And the Said Thomas Cushing Esqr. on his part doth also Agree with the Said Jonathan Stephen & Ralph that he will find for building the two Ships Afresaid and in Season. Iron work of every kind. pitch. Tar, turpentine, Oackum Joiners Work proper tackles to Assist them and all such Articles as are Customary of the owners to find and do, And pay to the Said Jonathan. Stephen & Ralph at the Rate of Six pounds ten shillg L Money p tun for each & every tun the Large Ship shall measure And Six pounds of Lake money for each & every tun the smaller Ship may measure, the payments to be made in the following manner viz one fourth part When the keel is Laid, one fourth when shut in under the Whale one fourth when the Gun Deck Beams are Carried in one eight part when Launch'd the Remaining Eight part when finished. To the true and faithfull performance of each and every Article before mentioned the parties bind and Oblige themselves each to the Other in the penal sum of Two Thousand pounds Law money. In Wittness whereof we have hereunto interchangably set our hands and Seals the day & year first above written

Signed Sealed & delivered	Jonath Greenleaf	[Seal]
in presence of	Stepn Cross	[Seal]
John Bradford	Ralph Cross Junr	[Seal]
Gibbins Sharp	Thomas Cushing	[Seal]

APPENDIX B.

It is not the intention of this article to follow the careers of each of the frigates, but because their launching dates and their fates, neither of which has been correctly stated as a whole before, may lead to the identification of materials not presently recognized, the data are appended.

Raleigh. Launched 21 May 1776. See *New Hampshire Gazette,* 25 May 1776. Run aground 27 September 1778 and captured by H.M.S. *Experiment* and H.M.S. *Unicorn.* She was floated off, condemned at the Admiralty Court in New York and purchased into the Royal Navy under the same name. See William Bell Clark: *Gallant John Barry,* 167-182; THE AMERICAN NEPTUNE I (1941), 168-170; *The Remembrancer,* VII, 154. Lines and deck plans in the Admiralty Collection. (Plates 5, 6)

Hancock. Launched 10 July 1776. Greenwood, *John Manley,* 59. Captured in action by H.M.S. *Rainbow* on 6 July 1777. Purchased into the Royal Navy as H.M.S. *Iris.* See *London Chronicle,* 26 August 1777; *The Remembrancer,* V, 263. Lines and deck plans in the Admiralty Collection. (Plates 3, 4)

Boston. Launched 10 June 1776. See *Pennsylvania Gazette,* 19 June 1776. Captured at the fall of Charleston, South Carolina on 11 May 1780. Purchased into the Royal Navy as H.M.S. *Charleston.* See John Sheppard, *Life of Samuel Tucker,* 140; *The Remembrancer,* X, 45, 142. Her lines have not been found.

Warren. Launched 15 May 1776. See *Providence Gazette,* 18 May 1776. Blown up on 14 August 1779 in the Penobscot River to prevent capture. See *London Public Advertiser,* 25 September 1779. No plans known.

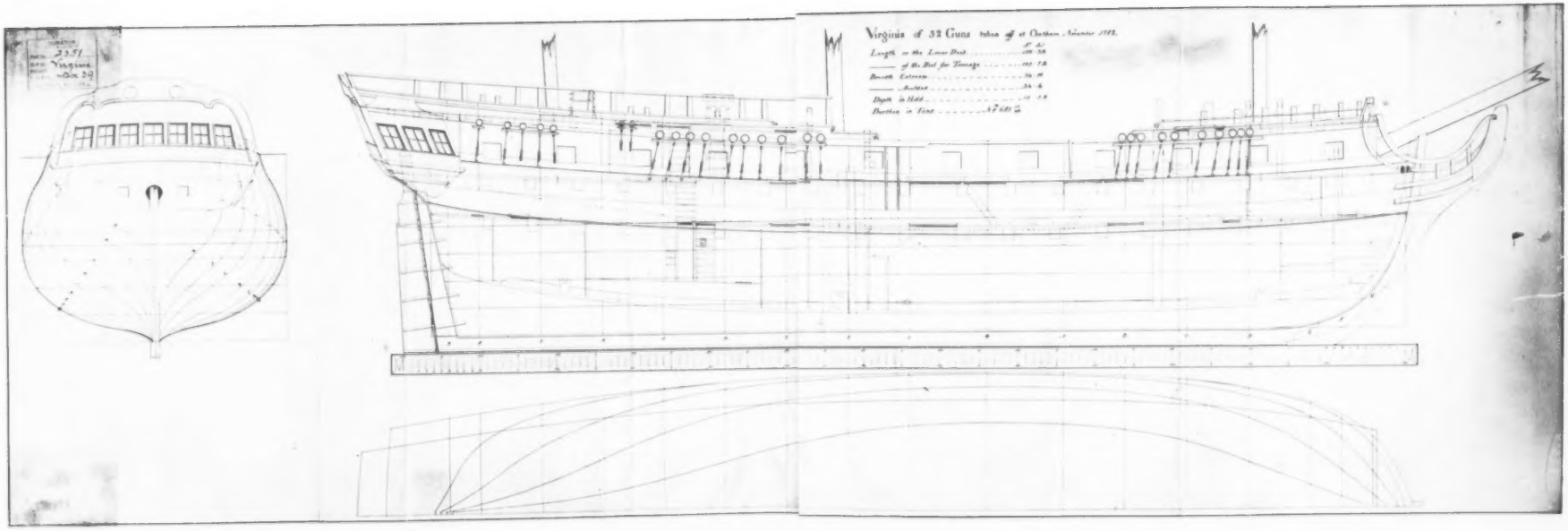
Providence. Launched 18 May 1776. See *Providence Gazette,* 18 May 1776. Captured along with *Boston,* 11 May 1780. See *The Remembrancer,* X, 45, 142. She became H.M.S. *Providence.* Her lines have not been found, those in the Admiralty Collection being of another vessel.

Trumbull. Launched 5 September 1776. See *Pennsylvania Evening Post,* 7 September 1776; L. C. Middlebrook, *Maritime Connecticut,* II, 265. Captured by H.M.S. *Iris* and H.M.S. *General Monk* on 9 August 1781. See *London Public Advertiser,* 26 September 1781. She was in such bad condition she was not purchased into the Royal Navy. Plans not found.

Congress and *Montgomery.* Both launched soon after 29 October 1776. See Force, *Archives* 5, III, 275. Both were burned on 6 October 1777 near Esopus, New York to prevent capture. No plans of either have been found. See John Sparks, *Washington,* V, 472; *The Remembrancer,* V, 425.

Randolph. Launched 10 July 1776. See Author's Collection, Humphreys MSS. Blown up in action on 8 March 1778 while engaged with H.M.S. *Yarmouth.* See Public Records Office, London, Captain's Log 31/1091, *Yarmouth,* 8 March 1778. Her lines are in the National Archives. (Plate 7)

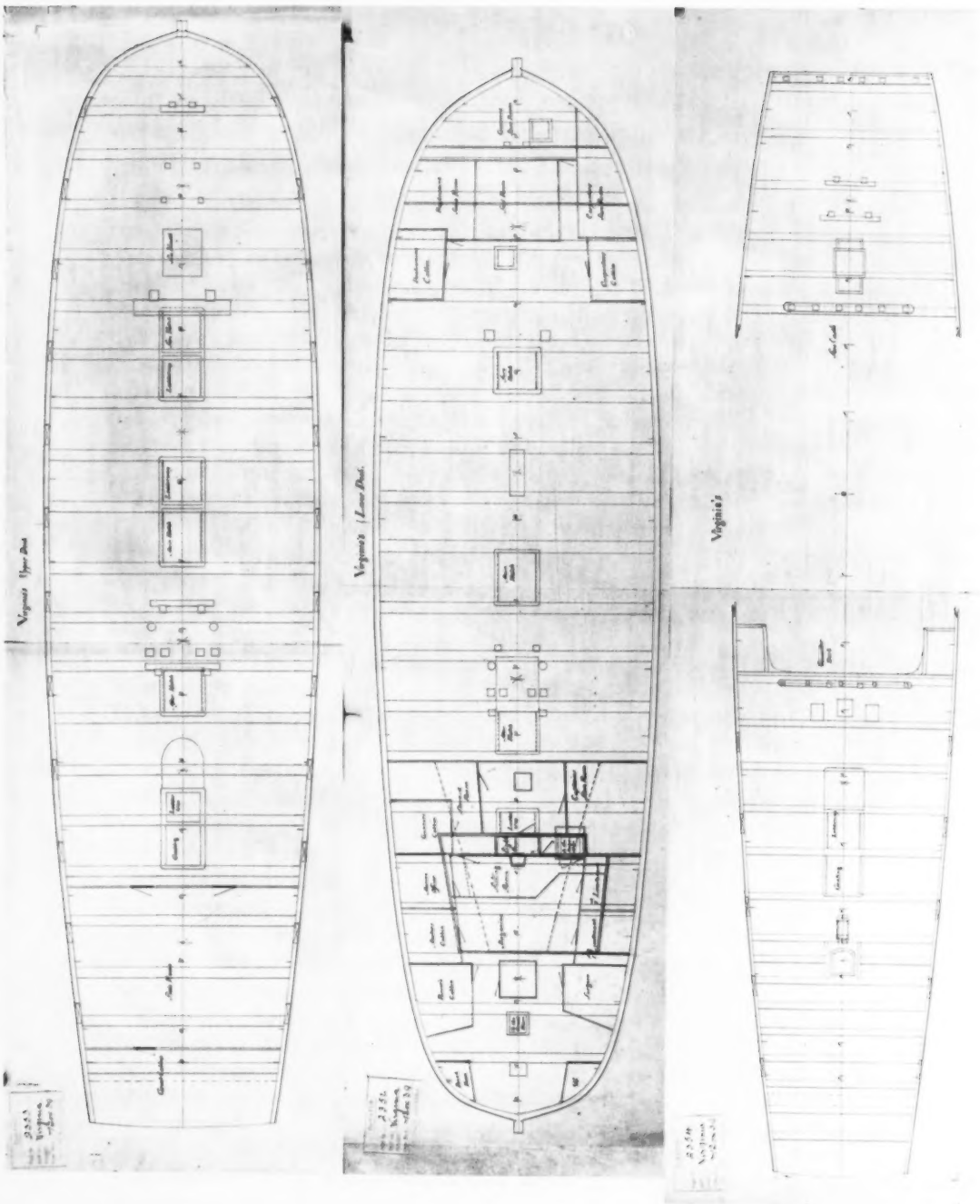
Washington and *Effingham.* Launched 7 August 1776 and 7 November 1776 respectively. See *Philadelphia Evening Post,* 13 August and 12 November 1776. Both were scuttled by Captains Barry and Read on 2 November 1777 near Whitehall, New Jersey to prevent capture. See Clark, *John Barry,* 130-133, 154-155; *Pennsylvania Magazine of History,* XIX, 82. The hulls were burned to the low tide mark by Captain



Continental Frigate *Virginia*—Lines

From the Admiralty Collection, National Maritime Museum, Greenwich

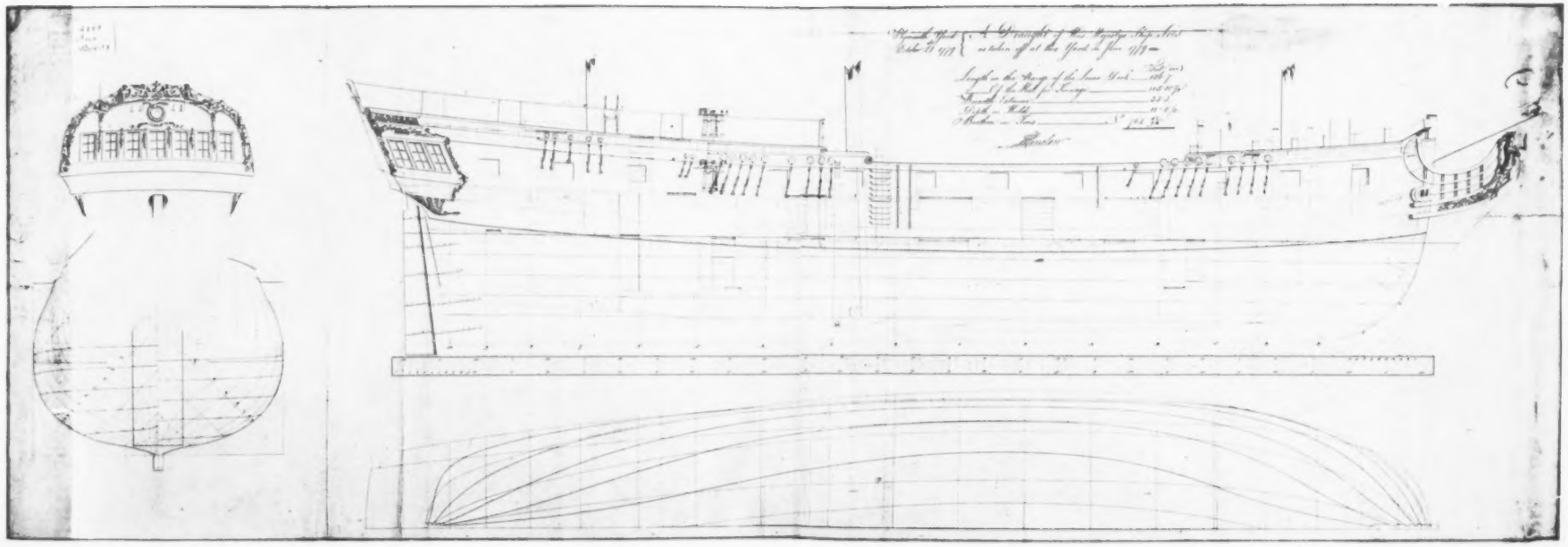
PLATE 1



Continental Frigate *Virginia* — Deck Plans

From the Admiralty Collection, National Maritime Museum, Greenwich

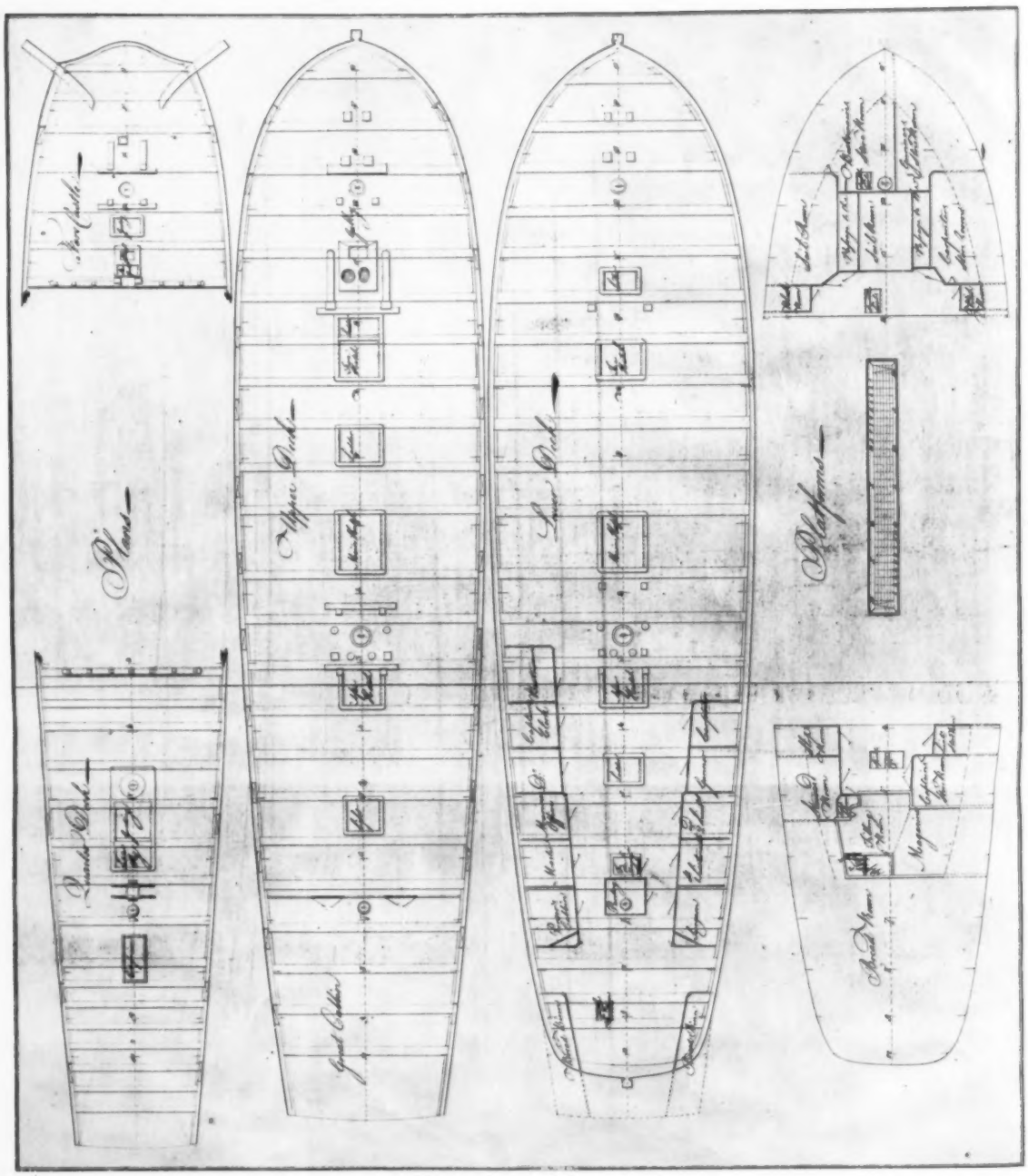
From the Admiralty Collection, National Maritime Museum, Greenwich



Continental Frigate *Hancock*—Lines

From the Admiralty Collection, National Maritime Museum, Greenwich

PLATE 4

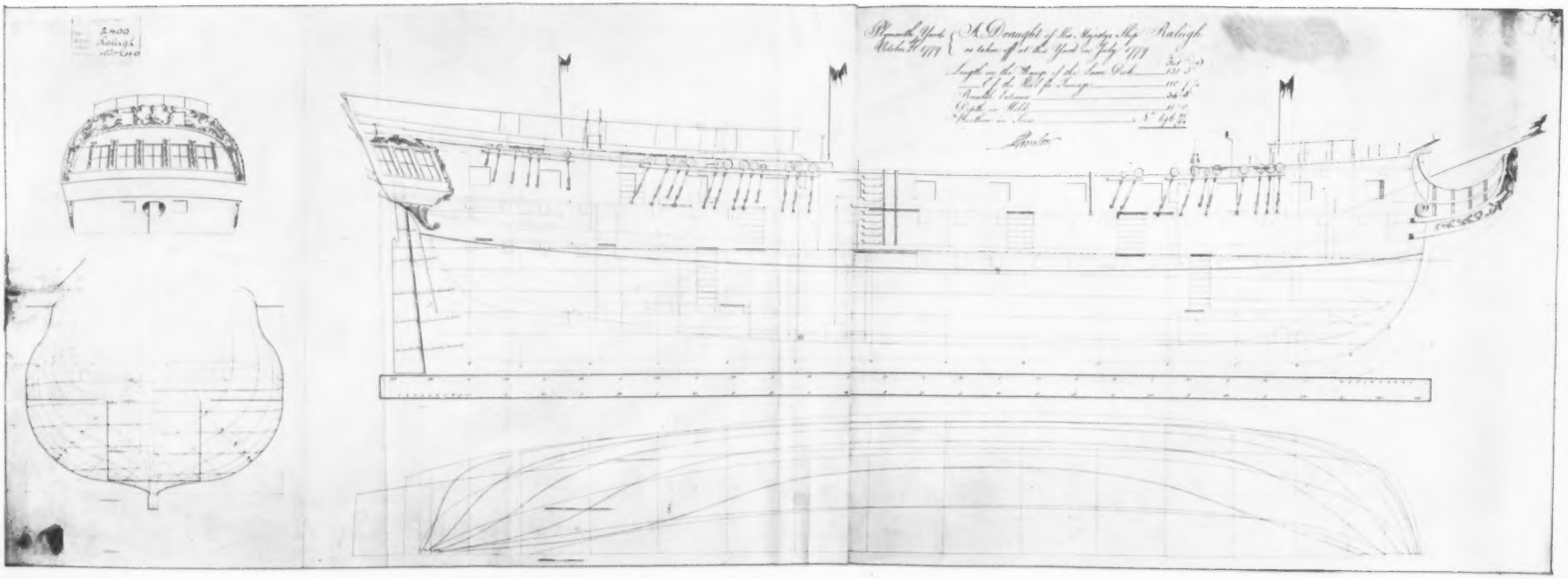


Continental Frigate *Hancock*—Deck Plans

From the Admiralty Collection, National Maritime Museum, Greenwich

Continental Frigate *Hancock*—Deck Plans

From the Admiralty Collection, National Maritime Museum, Greenwich

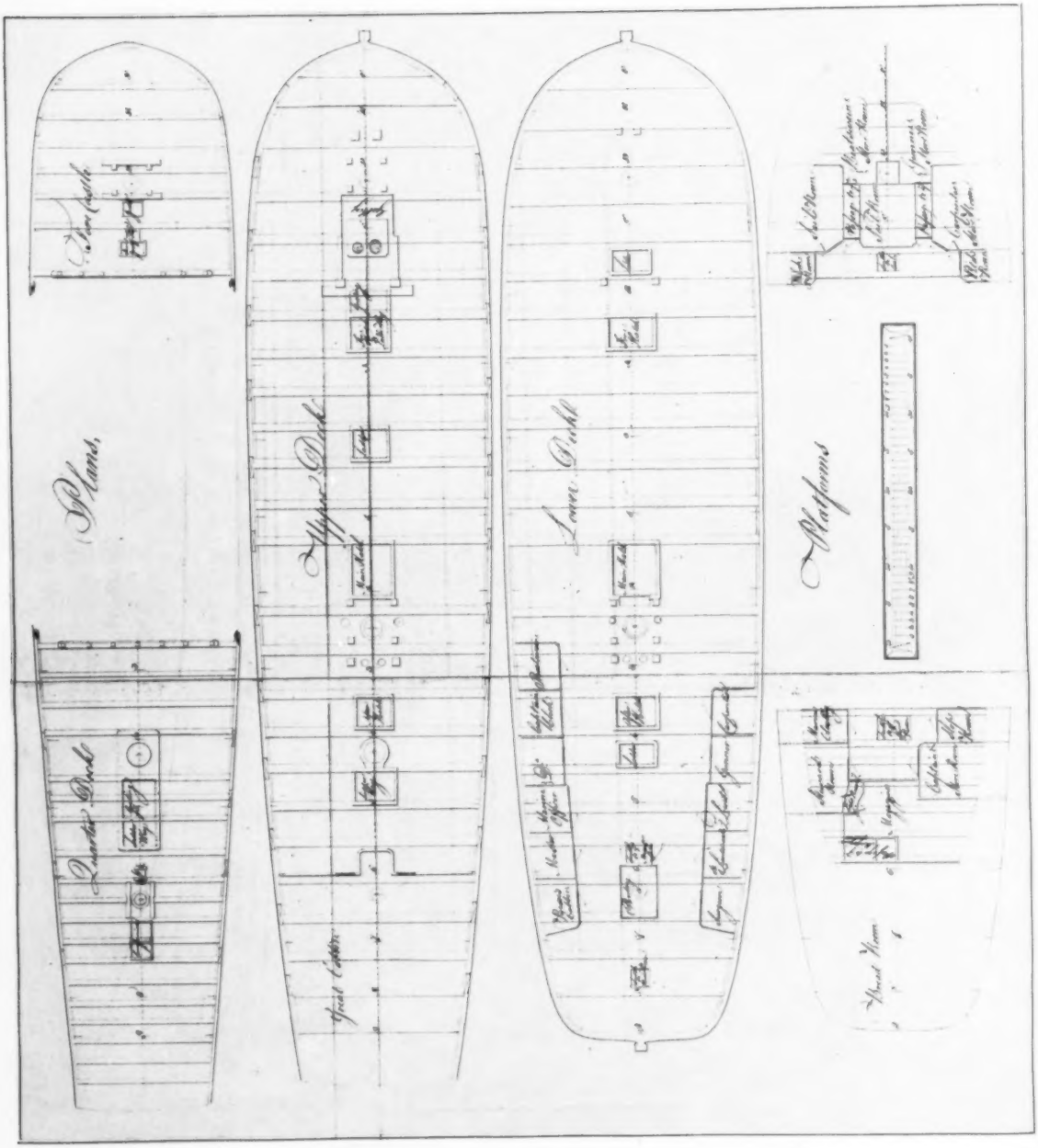


Continental Frigate *Raleigh*—Lines

From the Admiralty Collection, National Maritime Museum, Greenwich

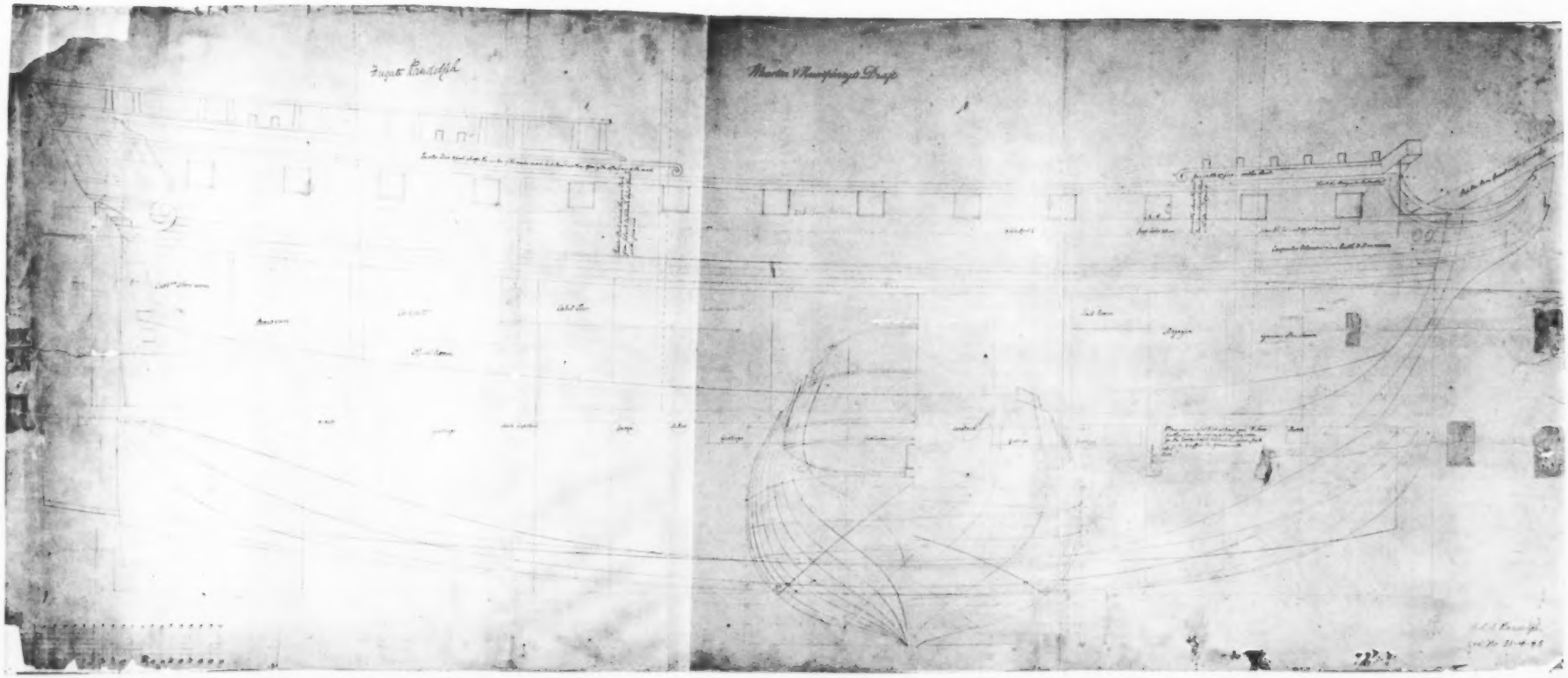
PLATE 5

PLATE 6



Continental Frigate *Raleigh* — Deck Plans

Continental Frigate *Raleigh*—Deck Plans



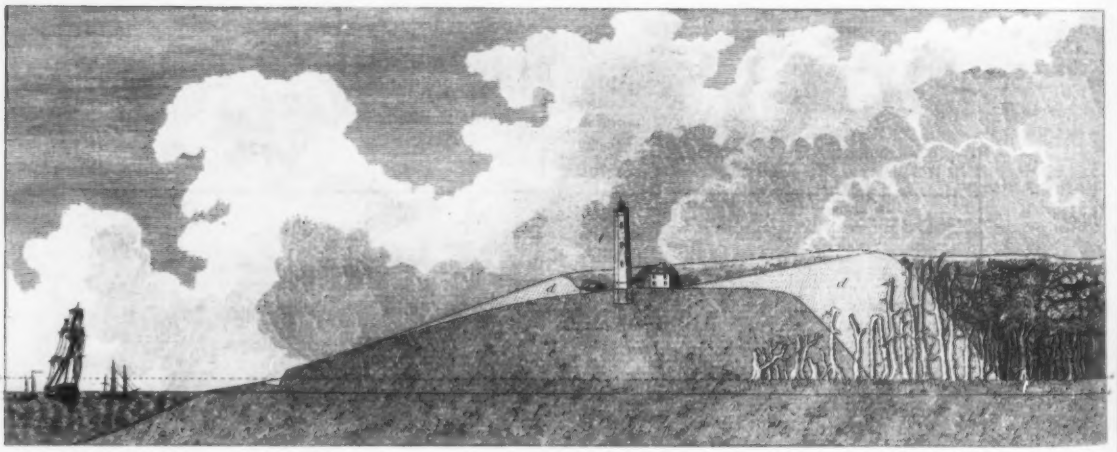
Continental Frigate *Randolph*—Lines

From the Navy Department, Bureau of Construction and Repair Plans, The National Archives, Washington, D. C.

PLATE 7

A nineteenth-century view of the Cape Henlopen Lighthouse, designed by John Palmer and built in 1763, the plan of which was used for the unfinished Cape Henry Lighthouse, 1773-1775.

Reproduced by courtesy of The Mariners' Museum, Newport News



Section of the coast of Virginia at Cape Henry

Reproduced from an engraving by B. Henry Latrobe, accompanying his 'Memoir on the Sand-hills of Cape Henry in Virginia,' Transactions of the American Philosophical Society, *IV (1799), 439-444.*

John Henry when he raided the upper Delaware valley 7-9 May 1778. See *The Remembrancer*, VI, 148. Later the hulks were raised and although the Marine Committee expressed the intention to rebuild them, they were sold at Philadelphia. See C. O. Paullin, *Marine Committee Letter Book*, I, 275; *Pennsylvania Packet*, 14 April 1777. No plans of either vessel have been found.

Delaware. Launched between 8 and 13 July 1776, probably on the twelfth since Jacob Howell was paid £5 for 'Limes & Lime Juice for her launch' on that day. See *Magazine of History*, IX, 262; Historical Society of Pennsylvania, Woodhouse Collection, Commissioners of Naval Stores Account, 'Delaware.' Accidentally ran aground in the Delaware River on 27 September 1777 and was captured by Sir William Howe's force. Purchased into the Royal Navy as H.M.S. *Delaware*. See *The Remembrancer*, V, 413. Her plans have not been found.

Virginia. Launched 12 August 1776. See *Maryland Archives*, XII, 200-201. Ran aground between Capes of Chesapeake on 31 March 1778 and taken by H.M.S. *Emerald*. Purchased into the Royal Navy as H.M.S. *Virginia*. See *Pennsylvania Packet*, 15 April 1778. Lines and deck plans in the Admiralty Collection. (Plates 1, 2)

The Struggle for The Cape Henry Lighthouse, 1721-1791

BY ARTHUR PIERCE MIDDLETON

IT is remarkable that Chesapeake Bay, although boasting a greater volume of shipping than any other region of Continental America in the eighteenth century, was the last important region to be provided with the benefits of a lighthouse. This was partly because of the regularity of the coast adjacent to the Virginia Capes, which was used as an argument by the parsimonious to defeat the project of erecting a lighthouse, and partly because of the unfortunate division of the Chesapeake Tidewater, which formed a single physiographic and economic unit, into two political entities, and to the difficulty of reconciling, at any given time, the conflicting interests of the Upper and Lower Houses of the Virginia and Maryland Assemblies, the British Government, Lord Baltimore, and the British merchants trading to the Chesapeake. There were far-sighted men who early saw the need for a lighthouse at Cape Henry and who waged a continuous battle for its erection over a period of seventy years. Their statesmanship, and the reasons for the delay of the project they envisioned, throw an interesting sidelight on the internal operation of the machinery of British imperial government of the day.

The clarion call was first sounded in 1721 when Governor Alexander Spotswood wrote the Board of Trade urging the erection of a lighthouse at Cape Henry, the advantages of which 'for the benefite of the trade' to both Virginia and Maryland 'are so obvious that I have often wondered why so useful a work has not been undertaken long ere now.' Spotswood had broached the subject to various planters in Maryland and found them enthusiastic.[1] They assured the Governor that Maryland would be willing to contribute her share of the cost. Spotswood then sent a message to the House of Burgesses of Virginia, and, on 7 December 1720, the House resolved to build a lighthouse at Cape Henry, 'at the expense of this Col-

[1] Apparently the 'considerable persons in the Government of Maryland' were enthusiastic, but the Lower House on 21 July 1721 declared themselves 'altogether Ignorant of the Reasons . . . to recommend that affair . . . & . . . at a Loss of what Advantage or Whether any it may be to Trade.' Proprietary Papers, Black Books, III, part 3, nos. 156, 169, 176, Hall of Records, Annapolis.

ony, provided the Province of Maryland will contribute £150 towards the building and £80 sterling for ever hereafter towards defraying the charge of maintaining and keeping it in repair.' But, in order to raise money for the maintenance of the lighthouse, the Assembly was obliged to impose a duty on shipping. To do so without permission from the home authorities in England was beyond the power of colonial governments, so Spotswood recommended the proposal to the Board of Trade and requested them to secure 'the approbation of the Members of Trinity house,' the British lighthouse service. Spotswood maintained that vessels approaching the Capes in thick weather or at night, even though the wind be fair, are 'afraid to venture in where they could see no landmark.' As a result of the delay, many vessels found the wind shifted in the morning, and some have been 'kept out 2 or 3 months, whereas if such a lighthouse were built ships might then boldly venture [in,] there being water enough and a good channell within little more than a musquett shott of the place where this lighthouse may be placed.'[2]

The Governor's recommendation was carefully considered by the Board of Trade. They referred it to a group of prominent merchants trading to Virginia and Maryland, who reported that in their opinion it 'will be no ways advantagious.'[3] As this did not satisfy the Board, they called upon the merchants to state their reasons for opposing the lighthouse.[4] The merchants replied that, 'The use of the lead is the best guide. During the winter the N. W. winds (not the want of a lighthouse) sometimes blow the ships off the coast.' Besides, they pointed out that 'Ships that come within 8 or 10 leagues of the land in the night-time often discover great lights on the shoar, which cannot be distinguished whether it may be one of those great fires or the lighthouse.'[5] In view of the opposition of the merchants, the Board of Trade decided against the proposal and communicated their decision to Governor Drysdale, who had succeeded Spotswood as governor of Virginia. They wrote that

> Considering that the duties to be levied for the purpose would chiefly affect the trade and shipping of this Kingdom, and that the merchants here seem already alarm'd at the proposal, we must desire that if you pass any Act for that purpose you would at least . . . insert a clause therein . . . to suspend the effect . . . till the same shall have been confirm'd by H[is] M[ajesty].[6]

[2] *Calendar of State Papers, Colonial Series, America and West Indies,* 1720-1721, no. 396, pp. 260-267. Hereafter cited as *CSPC.*

[3] *CSPC,* 1722-1723, no. 216, p. 108.

[4] *CSPC,* 1722-1723, no. 230, p. 113.

[5] *CSPC,* 1722-1723, no. 244, p. 117.

[6] *CSPC,* 1722-1723, no. 590, pp. 282-283.

Drysdale submitted with good grace, assuring the Board that 'Since the merchants who are most concerned seem not to approve of the projected lighthouse, I think the Assembly will take no further steps.'[7]

In 1728 Drysdale's successor, Governor William Gooch, became interested in the project and recommended the lighthouse 'as absolutely necessary for the security of our shipping.' He pointed out to the Board of Trade that Maryland would benefit even more than Virginia, 'for at present we can go to sea in the night, but not come from thence, and they can do neither.' In consequence, Gooch asked the Board to consider 'what is necessary to be done with our neighbours of Maryland, in case they should not be willing to contribute to the lighthouse.'[8] The Board transmitted the recommendation to the Duke of Newcastle and ordered Gooch to insert a clause in any bill for the purpose, suspending its action until royal confirmation could be secured.[9] Shortly afterwards, Gooch reported to the Board of Trade that the Virginia Assembly had passed an Act for erecting a lighthouse, appropriating £1,000 'for building a substantial lighthouse of brick or stone, and for purchasing grounds sufficient for that and the keeper of it.' To raise the sum and to defray 'the expense of keeping a constant light there,' the Act provided a levy of a penny per ton on all vessels entering the Virginia Capes. The Act, however, was not to go into effect 'untill approved by H[is] M[ajesty], nor unless the Province of Maryland pass an act for raising and collecting the same light money on the ships and vessels trading thither.' Gooch urged that

> a flat coast for many leagues on each side of the Capes, and scarce discernible in the clearest weather above five leagues off at sea, surely requires some noted landmark to guide the doubting mariner: the sudden changes of wind at those seasons of the year when the ships most frequent this coast, makes it necessary that no time be lost for their getting in, since whenever the Northwest wind begins to blow it is with great violence and holds generally for many days, so that ships coming to soundings in the night and having nothing to direct their course, are frequently drove back to sea in the morning when by the conveniency of this necessary and useful work they might have got within the Capes in safety.

Each of the mariners with whom Gooch had discussed the idea, 'owns the use of it, and allows the duty for supporting of it very reasonable.'[10] Gooch also pointed out how Maryland would benefit by the lighthouse: 'our ships,' he said,

[7] *CSPC*, 1722-1723, no. 738, p. 356.
[8] *CSPC*, 1728-1729, no. 53, p. 36.
[9] *CSPC*, 1728-1729, no. 190, pp. 90-91.
[10] *CSPC*, 1728-1729, no. 241, pp. 114-125.

setting saile in the morning from any of our rivers with a fair wind can get out of the Capes before night, whereas the Maryland ships having a much longer run down the Bay are frequently benighted before they can get sight of the Cape, whereby it has happned that divers ships of value have in the compass of a few years past been cast away on the shoals either on the Horse-shoe, or Middle ground which extends a considerable way from the Cape up the Bay of Chesapeake and form a narrow and difficult channell.

On 3 December 1728 the Board of Trade summoned Lord Baltimore to appear, acquainted him with the terms of the Virginia Act, and desired him to consult with the merchants trading to Maryland concerning the proposed lighthouse.[11] Eight days later, the Board held a hearing at which were present Lord Baltimore, Colonel Spotswood, Alderman Perry, and several other tobacco merchants, as well as Captain Pierce, 'sometime Commander of one of his Majesty's ships of war upon the Virginia station.' A letter from Robert Cary was read, declaring that he thought 'the Virginia merchants will not oppose the erecting this lighthouse, if the Maryland merchants will agree to the same duty, as that proposed by the aforesaid Act.'[12] But Micajah Perry on behalf of the merchants trading to Maryland presented a paper 'containing some reasons against the said Act,'[13] in which he reiterated the objections that had been advanced in 1723, especially that the lighthouse would be indistinguishable from the various other lights along the coast caused by forest fires and other 'chance fires made in hunting,' which generally occur about the season when the tobacco ships come in, and which would deceive the mariners and cause the loss of many ships. In addition, the light would be useless in fog, 'it not being then visible, and in clear weather or any that is fitting for a ship to stand to land, knowing the latitude they may safely run in without it by lead, which is an infallible guide.' Perry contended that the existence of a lighthouse might lull the mariner into a false sense of security whereby he would neglect his lead and run for the light which might, through carelessness, be extinguished, as had so often happened to 'lights even in the British Channell.' He concluded with the statement that, 'We do not know that any shipp ever miscarried for want of a light on the Cape.'[14] In view of these objections, the Board postponed the matter for further consideration.

[11] *Journal of the Commissioners for Trade and Plantations*, January 1722/3-December 1728, pp. 440-441.

[12] *CSPC*, 1728-1729, no. 512, p. 262.

[13] *Journal of the Commissioners for Trade and Plantations*, January 1722/3-December 1728, p. 443.

[14] *CSPC*, 1728-1729, no. 511, p. 262.

Gooch reopened the issue in March 1729 by writing to the Board of Trade that in January a vessel of a hundred and fifty tons, bound to Maryland, was cast away at the Capes, 'which could not have hap'ned had there been a lighthouse.' Using this misfortune as a springboard, Gooch plunged into the thick of the fray and accused the Marylanders and the merchants who opposed the lighthouse of 'meer obstinacy.' He predicted that they would continue to pay dearly for want of a lighthouse and added that there was not 'one Captain of H[is] M[ajesty's] ships, or Master of a merchant ship, but what finds the want of it, and is sensible of the great service it would be to the shipping.'[15] The Board of Trade, notwithstanding the blandishments of Governor Gooch, decided against the measure and recommended its disallowance by the king. The Board wrote Gooch that they had 'thought it proper to discourse' with Lord Baltimore and the Virginia and Maryland merchants upon the matter and had found a majority of them averse to the proposed undertaking.[16]

In the face of such powerful and determined opposition, Gooch had the grace to yield, but not without making it clear that he still thought his proposal right. Early in 1730 he wrote the Board to

> assure your Lordships of my entire resignation to your Lordships' sentiments, and my resolution to bring the people of the Colony into the same temper, notwithstanding both they and I may in that particular of the Lighthouse differ from the opinion of the merchants and others, and still think it would be of great service to the trade.[17]

Nothing further was done in connection with the proposed lighthouse for the next twenty years. In 1750, however, Thomas Lee, president of the Virginia Council, reopened the question in connection with the rebuilding of the fort at Point Comfort. Lee proposed removing the fort to Cape Henry where both a fort and lighthouse might be built. He recounted the familiar story of the many ships that reached the Capes in the evening and were unable to stand in for want of a lighthouse to guide them, whereby they have 'been drove to sea and made their passages some weeks longer or have been drove on shoar and lost, or in Warr fallen into the hands of the enemy.' He gave his opinion that two pence or three pence per ton duty would suffice to pay for the lighthouse.[18] Lee's proposal was favorably received by the Virginia Assembly and in 1752 an Act was passed for the erection of a lighthouse at Cape Henry. After con-

[15] *CSPC*, 1728-1729, no. 641, pp. 332-336.

[16] *CSPC*, 1728-1729, no. 740, pp. 390-391; Public Record Office, Colonial Office Papers, 5:1366, p. 24. British Transcripts in Library of Congress. (Hereafter cited as *CO*.)

[17] *CSPC*, 1730, no. 8, pp. 6-8.

[18] *CO* 5:1327, p. 188.

siderable delay, the Board of Trade reviewed the Act late in 1758, and at the first hearing, on December 19, the agents of Lord Baltimore and of the two Chesapeake colonies appeared to favor the measure. As soon as they had withdrawn, however, the Board considered the Act further and without waiting for the opinion of the merchants, decided to recommend its disallowance.[19] But on 9 January 1759 the Board received a letter from John Collet, the secretary of the tobacco merchants, acquainting them that the merchants were of opinion 'that a Lighthouse there would be a Security to all Ships & their Cargoes' bound to Chesapeake Bay and 'a publick benefit,' but that they were anxious to be kept informed from time to time as to the means of raising the necessary money for the lighthouse.[20] Although in favor of the lighthouse, the merchants were unwilling to bear any part of the expense of building and maintaining it.[21]

Upon the receipt of this information, the Board of Trade realized that all the persons concerned—Lord Baltimore, the Assemblies of Virginia and Maryland, and the British tobacco merchants—were now in favor of the proposed lighthouse, although they differed as to the means of raising the necessary funds. But the Virginia Act of 1752 was poorly drafted and violated certain cardinal principles of legislation. In consequence, the Board, while recognizing the utility of the proposed measure, recommended the disallowance of the Act on the grounds that it laid a duty on 'the Trade and Shipping of this Kingdom,' that it neither mentioned a computation of the expense of the lighthouse nor appropriated any possible surplus, and that in laying a duty on all vessels entering the Chesapeake, including vessels trading to Maryland, 'the Trade and Navigation of that Province would be taxed by the Legislature of Virginia, to whose Authority the Province of Maryland cannot by the express Exemptions in its Charter, be in any Case liable.' The Board then recommended that the agents of the two colonies consult with the merchants, that 'proper Measures may be concerted for erecting & maintaining it at the joint Expence of the s[ai]d Provinces.'[22]

After nearly forty years, the colonial governments succeeded in obtaining the admission of the British merchants that a lighthouse would be useful and the acquiescence of the home authorities to the project of erecting one. But, contrary to what might be expected, this victory was

[19] *Journal of the Commissioners for Trade and Plantations,* January 1754-December 1758, pp. 436-437.

[20] *CO* 5:1329, p. 203.

[21] *CO* 5:1329, p. 201.

[22] *CO* 5:1329, pp. 419-420; *CO* 5:1367, pp. 346-349; *Acts of the Privy Council, Colonial Series,* IV, no. 374, pp. 401-402; *Journal of the Commissioners for Trade and Plantations,* 1759-1763, p. 122. The act was disallowed 2 February 1759 by order of king in council.

not followed up by prompt action. Nothing seems to have been done until 1767, when the Virginia House of Burgesses appointed a committee to draw up proposals to be sent to the Maryland Assembly concerning their joint action in erecting the lighthouse.[23] For the next five years the project remained in a formative stage in the committee-rooms of the Virginia and Maryland Assemblies.[24] Finally, in February 1772, in response to a communication from the Lower House of the Maryland Assembly expressing their willingness to coöperate and to share the expenses, the Virginia Assembly passed an Act for laying four pence per ton for each voyage on all vessels trading to the colony and appointing eleven gentlemen as directors and managers for erecting the lighthouse.[25] The duty was to go into effect on 1 November 1772 and to continue until a surplus accrued, after which it was to be reduced to a penny half-penny per ton. The provision for the reduction of the duty was to avoid the objection made against the Act of 1752, an objection that was one of the reasons for its disallowance. Like all previous legislation concerning the lighthouse, the Act of 1772 had a clause suspending its operation until Maryland passed a similar Act levying the same duty and contributing her share of the cost.

In March 1773, a supplementary Act was passed by the Virginia Assembly, naming five additional directors. By this time Maryland had taken joint action and the project was ready to go forward. The directors were now authorized to select a plan and to purchase materials for the proposed lighthouse.[26] At a meeting on 24 June 1773 at Norfolk, Mr. Bassett Moseley was appointed clerk, and it was resolved that buoys be constructed as soon as possible and placed on certain shoals in the Bay: Middle Ground, the Horseshoe, Willoughby's Spit, York Spit, the Wolf Trap, and Smith's Point.[27] The next day the directors made an excursion to the Cape to view the ground. The trip was apparently a success: the honorable directors not only consumed £7:13:1½ worth of liquor on the occasion but also selected a site 'as near to the Inner Cape, as a convenient foundation can be made.' They resolved that William Byrd III 'be requested to procure from the Northward proper Plann's for a Lighthouse.'[28]

[23] *Journals of the House of Burgesses of Virginia*, 1766-1769, p. 117.

[24] Ibid., 1766-1769, pp. 119, 143; 1770-1772, pp. 86, 90, 156, 176, 192, 251, 278, 291, 300, 306, 312, 315.

[25] William Waller Hening, *Statutes-at-Large; being a Collection of all the Laws of Virginia*, VIII, 539-541.

[26] Ibid., VIII, 652-653.

[27] Proceedings of the Directors of the Lighthouse, 24 June 1773, in Scharf Collection, 89, v. 455, Maryland Historical Society, Baltimore. Hereafter cited as Proceedings.

[28] Proceedings, 25 June 1773.

At a meeting in Williamsburg in November, Colonel Byrd laid before the Board copies of the plans and estimates of the lighthouses at Sandy Hook and Cape Henlopen. The directors, after considering them, preferred the latter and requested Byrd to write to Thomas Willing, the Philadelphia merchant, and 'request him to employ Mr. John Palmer the Builder of the . . . [Cape Henlopen] Lighthouse to come to Virginia as soon as possible.'[29] This was done and Palmer accepted the employment of the directors. He agreed to the site, recommended materials, and inspected quarries on the Potomac and the Rappahannock.[30] Thomas Newton, Jr. was named by the Board to negotiate with the owners of the quarries for sufficient stone.[31] Newton agreed with James Tutt and Richard Brooks of the Rappahannock quarry for 3,000 perches of sandstone, each perch to weigh 3,004 pounds.[32] He then inserted in the *Virginia Gazette* an announcement that the stone 'will be wanted to be brought to Cape Henry on Freight,' and instructing 'any Person inclinable to undertake the same' to apply to him.[33] The advertisement mentioned 6,000 tons of stone as the quantity required, and called for a flatboat of 120 tons burden.

On 27 June 1774 Newton was empowered to agree with a person to receive the stone at the quarry and allocate it among the boats and vessels that were to transport it to the Cape. John Kid was engaged for the purpose at a salary of 5/ a day.[34] In addition, the directors purchased the sloop *Tryal,* from Messrs. John and Willis Wilson for the sum of £350 currency, for the purpose of conveying the stone,[35] and four Moses-built boats in order to land the stone at the Cape.[36]

Meanwhile, the directors took steps to have buoys constructed, to be placed on certain of the more dangerous shoals, in pursuance of a clause in the Act of 1772. As early as June 1773 the Board resolved 'That Buoy's be fixed immediately' on the six specified shoals, and appointed eleven gentlemen to agree with the proper persons for constructing and placing

[29] Proceedings, 24 November 1773.

[30] Proceedings, 17 March 1774. The quarry on the Potomac was the freestone quarry on Aquia Creek, Stafford County. Cf. [Arthur Middleton], *Aquia Freestone,* a pamphlet, Alexandria, Virginia, n.d. [*circa* 1926]; Thomas Jefferson Wertenbaker, *The Old South* (New York, 1942), 111. The quarry on the Rappahannock was probably the one mentioned by William Byrd II in 'A Progress to the Mines,' October 1732, at Fredericksburg. William Byrd, *History of the Dividing Line and Other Tracts,* T. H. Wynn, ed. (Richmond, 1866), II, 72.

[31] Proceedings, 12 April 1774.

[32] Proceedings, 12 April 1774; *Calendar of Virginia State Papers,* V, 98-99.

[33] Proceedings, 12 April 1774; *Virginia Gazette* (Purdie & Dixon), 28 April, 5, 12, 19 May 1774.

[34] Proceedings, 13 July 1774.

[35] Proceedings, 13 July 1774.

[36] Proceedings, 2 May 1774.

them.[37] But nothing was done for the next eight months. In February 1774 the Board resolved that eight buoys be constructed of 2,500 feet of 'Juniper Plank,' as they called red cedar, 2½ inches thick, 6 inches broad, and 6½ feet long. A hundred copper sheets 5 feet by 2½ feet, thick enough to weigh twenty pounds, were to be bought, as well as eight round sheets of the same material for the heads of the buoys, 5 feet 7 inches in diameter, and eight others of 2 feet 10 inches in diameter. In addition, 1200 feet of copper hoops an eighth of an inch thick and 2 inches broad were to be purchased.[38]

From the proceedings of the directors, it is apparent that the task of erecting the lighthouse at Cape Henry was both difficult and costly. For one thing the building had to be erected on a sandy foundation; for another, the six thousand tons of stone required for it had to be shipped from the upper Rappahannock to the Cape, a distance of one hundred thirty-five miles, and then transferred to small boats in open waters. These boats had to combat the ocean surf, and the stone, after being landed, sank into the sand through wave action. The stone had to be dug out of the sand in the face of the surf, and conveyed in specially-built carts to the site of the lighthouse. An overseer and workers had to be hired and provided for: a house of wood 60 feet by 20 and a brick kitchen 15 feet square were built for the carters and stables for their horses. Provisions had to be sent them and slave-hire and sailors' wages paid. The sloop *Tryal*, which was bought for £350 to fetch stone from the Rappahannock and lime from Pennsylvania, proved very expensive to maintain. Enormous sums were disbursed for the stone and for its transportation. Between 23 February 1774 and 30 May 1775 some £600 were paid for the stone, nearly £1000 for freight, and £400 for carting. The total disbursement for this period was £5,243:12:1¾, of which Virginia paid £3,159:13:10½ and Maryland paid £1,952:14:7.The difference between the amount appropriated and the amount spent was accounted for by duties refunded from the Treasury for copper imported.

But the lighthouse proved more expensive than had been expected. In June 1775 it was estimated that the total cost would amount to £13,125-:19:5¾ Virginia currency, of which £7,908:4:10¾ had already been spent.[39] The urgent need for more money to complete the lighthouse in-

[37] Proceedings, 24 June 1773.

[38] Proceedings, 16 February 1774.

[39] An Estimate of Expences which may yet accrue in Compleating the Lighthouse, n.d. [*circa* June, 1775], Scharf Collection, 89, v. 455, Maryland Historical Society. By 1781, as a result perhaps of wartime inflation, the value of the stone at Cape Henry was estimated at £10,000 Virginia currency. *Calendar of Virginia State Papers*, II, 543. It amounted to 4,036 tons, costing 7/ the perch (each

duced the Virginia House of Burgesses to vote another £5,000 in confidence that the Maryland Assembly would vote their proportionate share. The bill passed the Burgesses and was sent up to the Council, but, by this time, Governor Lord Dunmore had fled from Williamsburg and was aboard H.M.S. *Fowey,* riding in York River. The Governor refused to leave the ship, and the Council refused to go aboard, so the bill failed because of the deadlock. This brought an end to all work on the lighthouse, and nothing further was done during the Revolution. After fifty-four years the project came to nothing, and was permanently abandoned in 1782 when the Virginia Assembly appointed six gentlemen 'to make a settlement of the accounts and adjust the balances due to the several creditors.'[40]

The abandonment of the project was solely the result of financial difficulties, not to a loss of faith in the usefulness of a lighthouse. After the adoption of the Federal Constitution, Virginia in 1789 ceded two acres of land at Cape Henry to the Federal Government on condition that they build a lighthouse there within seven years.[41] The next year it was estimated that the lighthouse would cost £13,000 Virginia currency. All the previous disbursements came to nothing because the stone had been covered by drifts of sand twenty to fifty feet deep, so that it cost more than half the value of the stone to dig it out, and, in the case of the deeply embedded stone, more than it was worth.[42] The few remaining materials were disposed of in 1791 and the proceeds divided between the Commonwealth of Virginia and the State of Maryland, in proportion to their previous contributions.[43] Shortly afterwards, the United States Government began work on the Cape Henry lighthouse—the first lighthouse built by the Federal Government—and thereafter the Chesapeake has been provided with the advantages of what Sir William Gooch called 'a noted Landmark to guide the doubting mariner.'

The struggle for the lighthouse in the colonial period failed, but it is important because it reveals various interests within the Empire and is illustrative of their corrosive effect upon colonial interests. The lighthouse, first of all, was an eminently reasonable and desirable project. The entrance to Chesapeake Bay needed a light. The project was conceived by

perch weighing 3,004 pounds). Freight averaged 13/6 per ton. Cartage to the site of the lighthouse amounted to 6/2½ per ton. Each ton, therefore, cost 24/4, Virginia currency. *Calendar of Virginia State Papers,* V, 98-99.

[40] Hening, *Statutes,* XI, 58.

[41] Hening, *Statutes,* XIII, 3-4.

[42] *Calendar of Virginia State Papers,* V, 98-99, 265, 352, 424.

[43] Gov. John Eager Howard to the General Assembly of Maryland, Annapolis, 6 December 1791, Scharf Collection, 89, v. 455, Maryland Historical Society.

the practical Spotswood, supported by masters and navigators familiar with the Bay, and advocated by Gooch, and it is more than a mere coincidence that in later years the first lighthouse erected by the Federal Government was that at Cape Henry. The objections advanced by the merchants who opposed the project were absurd. Even if they had been valid, they would have been applicable to all lighthouses. After the erection of the Cape Henry lighthouse in 1791, the calamities predicted by those who opposed the project half a century before did not occur. There can be no doubt that the lighthouse was badly needed, and it is unfortunate that the arguments advanced by its protagonists did not prevail seventy years earlier.

Had the Chesapeake region been a single province, the story might have been different. The minorities in the colonies and in Great Britain that defeated the lighthouse could have been overridden. Unity of action would have been a factor in favor of the protagonists of the lighthouse and the technical defects of colonial legislation for the erection of the lighthouse would have been avoided. In view of this, the British imperial authorities would certainly have acceded to the plan many years before they did, and once the consent of the Board of Trade had been obtained, there would have been much less reason for delay in putting the plan into execution. It is probable that, under such circumstances, the Cape Henry lighthouse would have been built at least half a century earlier than it was, to the great benefit of the trade and navigation of Chesapeake Bay.

Early Great Lakes Steamboats

The Battle of the Windmill and Afterward

1838-1842

BY H. A. MUSHAM

THE quiet of the summer of 1838 was deceptive.[1] The Patriots had gone underground once more. Many wanted to transfer their activities from the lakes to the Vermont border to support a rebellion being organized in Lower Canada. A new secret society, the Hunters,[2] which had its origin in Vermont, now took over the direction of operations. It was organized along Masonic lines in lodges, with degrees, signs, passwords, grips, codes and rappings to gain admittance to meetings. Its purposes were to promote and defend republican institutions, suppress tyrants and to drive the British out of the continent. It spread like wildfire on both sides of the frontier. At its height its membership was estimated up to 200,000, organized in 1,008 lodges. Cleveland became its headquarters and there it held a convention from 16 to 20 September, at which a republican government for Upper Canada was organized and plans made for the invasion of the province in November. The lodges then set about raising funds, collecting arms, ammunition and supplies, and recruiting men. All these activities were too widespread for even a secret society to keep concealed. The British were kept informed of what was going on through their agents and made ready to meet the attack. They did not find out, however, when and where it was to be made. To supplement their military force and increase its mobility, Captain Sandom took over the new *Queen Victoria* and *Cobourg*, armed them, put naval crews aboard and used them on patrol duty on Lake Ontario. *Transit* was also used as a troop transport as occasion required. On Lake Erie Governor Arthur secured the use of four steamers and negotiated for a fifth.[3] *Daniel Webster, Milwaukee* and *General Porter,* all American, were three

[1] For the preceding events, see H. A. Musham, 'Early Great Lakes Steamboats: The *Caroline* Affair,' THE AMERICAN NEPTUNE, VII (1947), 298-314. Earlier articles in the series have been published in III (1943), 333-344, V (1945), 27-42, VI (1946), 194-211, and VII (1947), 42-65.

[2] Also known as the Chasers in Vermont and northern New York.

[3] Albert B. Corey, *The Crisis of 1830-1842 in Canadian-American Relations* (New Haven: Yale University Press, 1941), p. 110.

of them, and the fourth was a Canadian, probably *Alliance*. The first two were chartered, but the third was purchased, made into a gunboat and became H.M.S. *Toronto*. To offset *Toronto,* the Federal Government took over *Little Erie* and put a naval officer in charge, the civilian captain and crew continuing to man her.[4] On Lake Ontario, Colonel Worth used *Telegraph* as required. The Federal Government looked upon the British naval increases, these violations of the Rush-Bagot Agreement of 1817, with much concern.[5] The British Government, however, regarded the ships as necessary to prevent invasion and raiding from south of the border. In view of the American protests it was considering terminating or modifying the agreement to make possible the employment of armed vessels for the protection of the frontier during periods of filibustering and similar disturbances,[6] to all of which the Federal Government refused to agree.

It did not take Lord Durham very long to find out that the troubles in Canada were not all due to the Canadian reformers and rebels. The too prompt hanging of some of the leaders and the severe punishment meted out to many others, instead of putting fear into them had done much to aggravate the situation on both sides of the frontier. His policy was to conciliate the Americans and he was successful in it to a certain extent. He favored complete amnesty for the rebels and the prisoners taken. He forbade the Canadian leaders of the rebellion who had fled their country to return, under penalty of death without benefit of clergy. His action was attacked in Parliament and he promptly resigned. When he left Quebec for England on 1 November, the stage was being set by the Hunters for the attack on Upper Canada.

The Hunters' plans called for invasion of the province across the St. Lawrence and Detroit Rivers. To mislead the British, fake rumors were spread as to the exact points of attack. Late in October they began to assemble in groups in northeastern New York. One of the largest, a party of 125, in command of Captains Davis and Buckley arrived at Oswego from Salina[7] about the first of November by canal boat and were quartered in the City Hotel. There was delay in moving them on to the St. Lawrence and some became discouraged and left. Water transportation

[4] *Niles National Register,* LIV (1838), 288.

[5] This restricted the naval forces of the United States and Great Britain on the lakes each to one vessel on Lake Ontario, not exceeding 100 tons burden and armed with an eighteen-pound cannon, and on the upper lakes (including Lake Erie) to two vessels not exceeding the same burden and similarly armed.

[6] Corey, op. cit., pp. 109-112.

[7] Now part of Syracuse.

was vital to the success of their plans. Deprived of the use of steamers, the Hunters turned to sailing craft.

On 8 November, the schooner *Charlotte of Oswego* arrived at Oswego and tied up at the dock near the Market House. There it loaded firearms and supplies from boats which had come up the canal under suspicious circumstances. On the tenth, another schooner, *Charlotte of Toronto,* somewhat smaller than the first, put in and also loaded freight from them. Later in the same day they both left port.

The steamer *United States,* Captain Van Cleve in command, was in port at the time. It had been advertised to leave for Ogdensburg on 8 November, but did not depart until Sunday, the eleventh, at 9:00 A.M., because of a heavy storm that had raged on the lake throughout the week. This was to be the last trip of the season. On board were Messrs. Morgan and Crocker of Oswego, part owners and directors in the company that owned her, on their way to Ogdensburg to meet with the other directors to close up the season's business. Also on board were 150 passengers most of whom had taken deck passage at Oswego. Among them were those that were left of the Salina party, 30 more Patriots from Oswego, and Brigadier-General Von Schoultz[8] of the Patriot army. Most of them had no baggage but they brought on board a few large trunks and iron-bound boxes and a small number of very heavy kegs. After the boat was well out in the lake, the General took Captains Davis and Buckley into a state-room and informed them of the plan for the attack to be made across the St. Lawrence. There were schooners ahead with one thousand men and large quantities of munitions on board. These would be met during the night and to them their men would be transferred. The troops would land at Prescott, march through the village and seize Fort Wellington at its eastern end. The attack would be supported by risings throughout the province.

At Sacketts Harbor twenty or thirty more men came on board and at Cape Vincent and French Creek an additional fifteen or twenty. They all appeared to be ordinary passengers, mostly Americans with a few Canadians, French and English. They said little, drank nothing and apparently were unarmed.

After leaving Cape Vincent, a passenger represented to Van Cleve that he had goods aboard two schooners on their way to Ogdensburg, which he was anxious to get through, and asked that these vessels be taken in tow. He further told him he had no connection with the other passengers. Van

[8] A Polish refugee and veteran of the Polish War for Liberation from Russia. His full name was Nils Gustaf Schoblewiski [or Szoltevcky] Von Schoultz.

Cleve saw nothing out of the way in this, as it was usual practice on the river to take tows. But then, as he was suspicious of the numerous passengers, he reasoned their crews would be reinforcements for his own should trouble arise. He consented and was paid $100.00, the usual charge for the service.[9]

The schooners, which were met at the foot of Long Island near Millen's Bay, where they were lying in the stream, were the two that had left Oswego the preceding day. On their decks were boxes and barrels, and just enough men to navigate them. As soon as they were made fast, one on each side, their hatches were thrown open and a large number of men piled out of their holds and boarded the steamboat. Some were openly armed while others wore swords under their coats. Van Cleve knew now that all was not what it should be and that most of his passengers were Patriots bound on some expedition. Among them was Commodore Bill Johnson.

Van Cleve conferred with Messrs. Crocker and Morgan as to the course of action to follow. The schooners could not be cast off, as the steamer was in the power of the Patriots on board. He proposed to run *United States* aground at Alexandria Bay, but they refused consent.[10] They decided to put in at Morristown, ten miles from Ogdensburg, report the situation to the local magistrates and send an express to Ogdensburg where, they were told, United States Marshal Nathaniel Garrow could be found.[11]

As for the Patriots, the General and the Commodore held a council of war and as usual in such affairs, there was disagreement. No definite plan of action could be decided upon. Morristown was reached at 11:00 P.M. There the Patriots cast off the steamer, but left one hundred of their number on board. The schooners were then lashed together and dropped down the river, Von Schoultz in command of *Charlotte of Toronto* and Johnson of the other. The moon had already set and the night was dark and cold. A light breeze was blowing and just enough sail was set to give the schooners steerage way.

The Canadian side of the river had been previously warned of an impending attack but not where it would take place. At Prescott the inhabitants were on the alert. At 2:00 A.M. a report was received that two

[9] Narrative of E. Wingate Davis, in Gardner B. Chapin, *Tales of the St. Lawrence* (Rouses Point, 1873), pp. 355-382. *Niles National Register*, LV (1838-1839), 200. James Van Cleve, 'Reminiscences of Early Sailing Vessels and Steamboats on Lake Ontario,' Manuscript in Chicago Historical Society, p. 88.

[10] Van Cleve, op. cit., p. 88.

[11] *Niles National Register*, LV (1838-1839), 200.

suspicious-looking schooners were lying in the stream, filled with armed men. 'To arms' was sounded and there was a general muster of the villagers, some with arms and others with pitchforks and clubs. The garrison consisted of a company of Glengarry volunteers and some militia from the Johnstown district.[12] The schooners neared the wharf. A man stood in the bow of the one on the landward side, with mooring line in hand. As she hit the dock he jumped ashore to tie her up. Just then a sentry fired his piece, and the man, startled and frightened, jumped back on board taking the line with him.[13] Colonel Young, in command at Prescott, then hailed them demanding their names and business and threatened to fire.[14] There was no reply and the schooners drifted by, carried on by the wind and the current. An attempt to put about and go upstream failed, and the wind carried them over towards Ogdensburg. There Johnson's boat grounded on the mud flat at the mouth of the Oswegatchie River. The lashings were let go and *Charlotte of Toronto* went into Ogdensburg with half the men. There another band of Patriots had assembled to take part in the operation, under General John Ward Birge, who took over the command of the expedition.

Here was an expedition intended for the conquest of Upper Canada, that through a mischance failed to take its first objective, Fort Wellington, and now had no place to go. About a mile and a half down the river on the Canadian shore was an old windmill surrounded by a few buildings, all of stone and with stout thick walls. As a rallying point for the risings to come, while not as good as the fort, it would do. The river here was a mile wide. It was decided to go ahead with the invasion. Von Schoultz took *Charlotte of Toronto* on down the river, dropped anchor off the mill, landed his men and guns, clambered up the steep bank and took possession. There was no resistance.

United States left Morristown at 3:00 A.M., reached Ogdensburg one hour later and tied up at the dock. Marshal Garrow was not there, but Morgan informed several persons of the facts in the case. Van Cleve believed the boat to be secure from further intrusion and left her with the first engineer in charge.[15] Johnson and his band then seized her, hired some of the crew to go with them and put ashore those that would not. The first engineer was forced on board at the point of a dagger. Captain W. S. Malcom, well experienced in navigating the river, was also taken

[12] Ibid., p. 199.

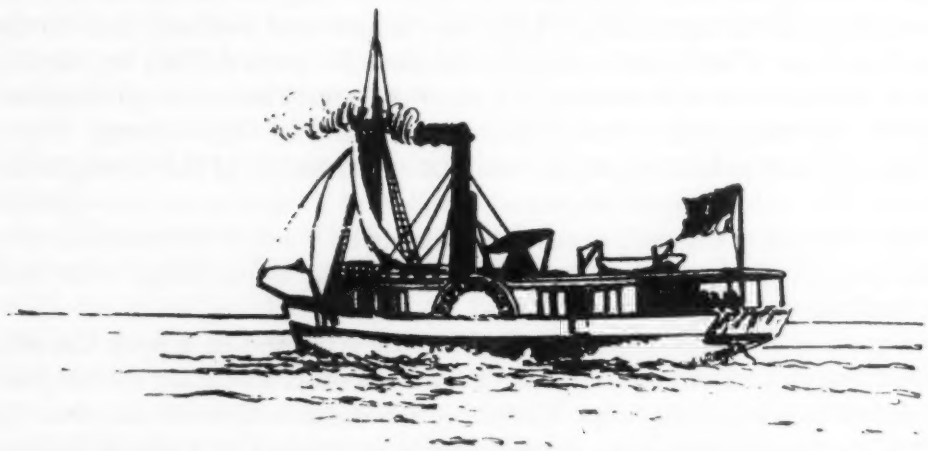
[13] Davis, op. cit., p. 362.

[14] *Niles National Register*, LV (1838-1839), 199.

[15] Van Cleve, op. cit., p. 88.

on board and forced, against his will, to act as pilot. A young man named Solomon Foster of Ogdensburg, recently married, volunteered in a spirit of adventure to act as steersman.[16]

The Ogdensburg Patriots had stolen a brass 4- and two iron 6-pounders belonging to the State of New York, and these guns Johnson took down to the mill in a scow. As soon as steam was up on *United States*, Johnson took her down to the mill. Returning he tried to put her close enough to the grounded *Charlotte of Oswego* to put a line aboard to pull



H. M. S. *Experiment*

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her off, but the shallow water prevented. He then went into Ogdensburg for a tow-line. Coming out the pilot was forced to go around her. As *United States* entered the channel, *Experiment,* Lieutenant Fowell, R.N., in command, which had come downstream and was lying at the dock at Prescott, fired two shots at her from her 6-pounders, neither of which took effect. She ran down to *Charlotte of Toronto, Experiment* following and firing at her. *Charlotte of Toronto* then came up to take the men off *Charlotte of Oswego* but could not reach her. *United States* stood between her and *Experiment,* which fired five or six shots at her and again without effect. *Charlotte of Toronto* then went into Ogdensburg and anchored. *United States* was now in charge of Colonel O. B. Pierce, erstwhile itinerant lecturer on grammar and phrenology. He took the men, 110 in number, to the mill and landed them. The steamer remained there for

[16] *Niles National Register,* LV (1838-1839), 199.

some time, after which she patrolled the river, *Experiment* dogging her and firing on her. Pierce stood on top of the wheel-house and cheered the men and defied the enemy while the balls were flying around. None of the shots struck the vessel or the Colonel until, coming upstream for the last time, a cannon ball ricochetted from the water, passed through the steering-room and killed Foster, who was at the wheel, by taking off part of his head. The sight so unnerved General Birge that he had to be taken to the main cabin, where he was laid on a mattress on a settee to recover. The Patriot colonel, next in command, called upon Captain Malcom to take her over. This he did, and ran her aground in the mouth of the Oswegatchie. To render her helpless he removed essential parts of the engines. Messrs. Crocker and Morgan wanted possession of their boat. Birge was still on board and still on the settee. He said he could not walk, but they wanted him off and convincing him that he could, had him put in a small boat and rowed ashore.[17]

Paul Pry, the local ferry-boat, was now taken over by the Patriots. During the afternoon she went out to *Charlotte of Oswego,* lightened her by taking off some of her cargo of firearms and pulled her off the mud flat under fire of *Experiment,* which ran up and down the river discharging her cannon at them. The Patriots in *Paul Pry* returned the fire with spirit. No one was injured but the rigging was cut to pieces. Just as the schooner came about, she fired a shot at *Experiment* that raked her from stem to stern, killing five or six men, so it was reported.[18] In the evening both schooners took more men down to the mill. Later Colonel Worth reached Ogdensburg from Sacketts Harbor in the steamboat *Telegraph,* with two companies of United States regulars. He was accompanied by Marshal Garrow, who seized *United States,* the two schooners and *Paul Pry.* On *Charlotte of Toronto* were found three cannon, one on wheels and two on boards, as well as boxes of guns and ammunition. The crews were detained by Colonel Worth. The engines of *United States* were put in working order, and on Colonel Worth's orders she left for Sacketts Harbor with Captain Malcom in command, towing the two schooners, and with their crews on board. So ended the part of *United States* in this venture, for which the Patriots alone were responsible. Messrs. Morgan and Crocker had nothing to do with it, her seizure and use by them coming as a complete surprise. Neither had Captain Van Cleve. Nevertheless they and the other directors held him responsible and deprived him of his

[17] Van Cleve, op. cit., p. 88. Davis, op. cit., pp. 363-364. *Niles National Register,* LV (1838-1839), 200-201.

[18] *Niles National Register,* LV (1838-1839), 201.

position, notwithstanding that he had earlier urged them to lay her up in Oswego for the winter.[19]

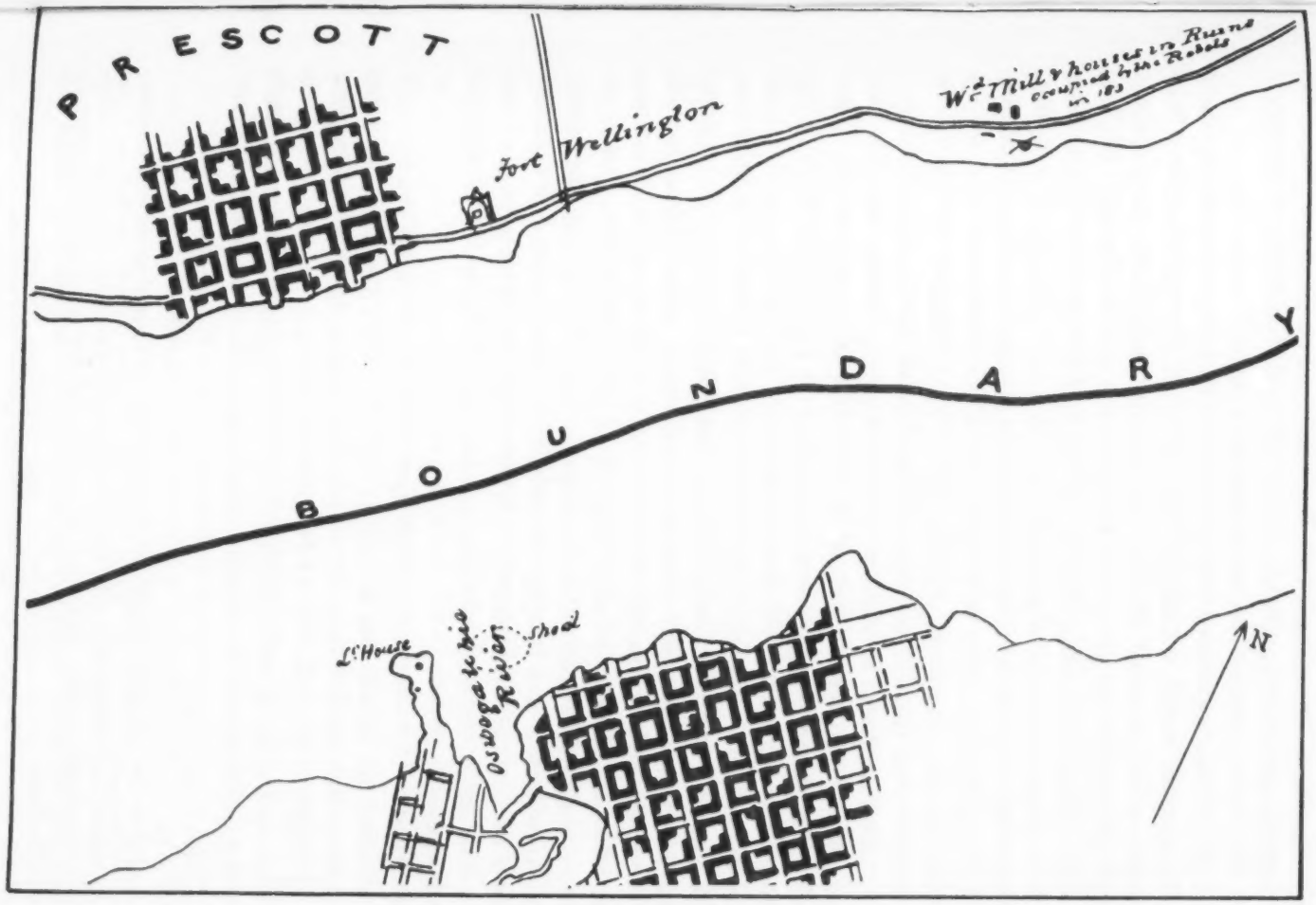
The night passed without further action but the next morning, Tuesday, 12 November, *Cobourg* and *Queen Victoria,* in command of Captain Sandom, arrived at Prescott with reënforcements for the British. With *Experiment,* they went down the river and landed the troops above the mill. Taking position off the mill, they opened fire on it and the Patriot position along a stone wall above it with shot and shell. The fire was returned from a Patriot battery on the shore. The regulars and Canadian militia, strength about 1,570, formed for the attack in two columns, advanced against the stone wall and were repulsed with a loss of 13 killed and 67 wounded. There was irregular firing until 3:00 P.M. when the Patriots burned a house which sheltered British sharpshooters. The Patriot loss was 5 killed and 13 wounded. The battle was fought in full view of the crowds on the American shore. They being unruly, Colonel Worth sent to Sacketts Harbor for more troops to hold them in control. Wednesday morning, 14 November, was spent picking up the wounded and burying the dead under a flag of truce.

Thursday, firing was resumed on the position. The remaining Patriots, now about 225 in number—Bill Johnson and his crew having departed—withdrew close to the mill with their wounded, determined to hold it to the last man. Their plight was now desperate and several of the citizens of Ogdensburg conferred with Colonel Worth as to the possibility of removing them to the American shore. Towards evening Worth crossed over in *Paul Pry,* met Colonel Plomer Young, the British commander, and offered to remove them if he would stop the firing. He pledged his responsibility for them in the future. Young refused, but remarked that two of the gunboats, *Cobourg* and *Queen Victoria,* had gone up the river, and that the third—*Experiment*—was undergoing repairs and would not be ready until 2:00 A.M. the next morning.[20] Worth returned to the American shore and turned *Paul Pry* over to a party of citizens headed by Preston King[21] which crossed over and tried to persuade Von Schoultz and the remainder of his men to leave the mill and return with them. They had just about agreed to go when one Nivens, a messenger, came down from the top of the mill with a message signalled across the river by General Birge. Reenforcements were coming—risings were reported in Canada—they were to hold their position. They decided to remain. *Paul Pry* remained at

[19] Van Cleve, op. cit., p. 91.

[20] Young was later tried by court martial for making this remark, but was acquitted.

[21] Postmaster of Ogdensburg and later United States Senator from New York.



The River St. Lawrence Between Prescott and the Windmill

Reproduced by courtesy of the Public Archives of Canada from 'Plan of the River St. Lawrence between Prescott and Cornwall—Drawn to accompany the 4th Report of the Naval and Military Commission, dated 29 January 1846'
[Report of Colonel W. H. Holloway and Captain Edward Boxer, Royal Navy]

Roads and buildings are substantially as shown on a plan of 1840, which is in too poor a condition to reproduce. The town in the lower center part of the chart is Ogdensburg, New York

the mill for thirty-five minutes. A few of the wounded were placed on board and she returned to Ogdensburg.[22] Half an hour later *Cobourg* returned, fired two guns and went up the river again.[23]

The next morning *Cobourg* and *Queen Victoria* returned, and with them came *William the Fourth,* which had been pressed into service. Four hundred regulars were landed. *William the Fourth* carried two 32-pounders, one of which was taken ashore and set up in the rear of the mill. *William the Fourth* took position below it and *Cobourg* and *Queen Victoria* just above it.[24] The troops formed for the attack and all the guns on land and afloat opened fire on the position.The Patriot force retired into the mill which, though its walls were three feet thick, could not withstand this concentrated fire. During the forenoon Von Schoultz decided to surrender unconditionally and the firing ceased. The British loss was 2 officers, 14 rank and file killed and 60 wounded in the five-day battle. The Patriots, loss was 17 killed in action, 3 dead of wounds and 157 prisoners. These were tied together in single file and guarded by two files of British regulars to protect them from the brutal abuse of the Canadian militia, and were marched into Prescott. There they were crammed into the fore hold of *Brockville* and taken to Kingston where they were again subjected to abuse and much indignity. Twenty-two of them, mostly youngsters in their teens or early twenties, were released without trial. Governor Arthur now had a free hand and, believing in severity, he lost little time in bringing the others to trial by military court. Five turned informer. Eleven, all officers, were hanged in public, 60 were sentenced to transportation for life to Van Dieman's Land,[25] while 64 were pardoned and returned to the States in the following year. The Loyalists were enraged at the leniency shown.

The defeat at the windmill ended open operations along the St. Lawrence. Disastrous as was the defeat, it did not deter the Hunters from making an attack on Windsor for which they had been making preparations throughout the fall. On 21 November, the new *Illinois* with General Brady in charge seized a small schooner carrying a number of small arms and a quantity of ammunition, while patrolling the Detroit River.

22 Davis, op. cit., pp. 222-224.

23 Ibid., p. 374.

24 The use of these vessels and of *Experiment* in the Battle of the Windmill is the second instance of steam warships engaging in combat. The first was that of *Ysabel Segunda,* the first steam warship of the Spanish Navy, which during the Carlist War fired the first hostile shot from a steamer on 5 May 1836 in the Bay of San Sebastián during an action then in progress on shore between the British Legion and the Carlists. *Ysabel Segunda* was formerly the steamship *Royal William,* built at Quebec in 1830-1831.

25 A general amnesty was granted in 1844 and those transported were returned to Canada and the United States.

These proved to have been stolen from the Brady Guards, the militia company organized in Detroit among the respectable element to maintain law and order. Sugar Island at the mouth of the river was the rendezvous for the coming operation. By the twenty-ninth of the month 400 men had gathered there. Brigadier-General Lucius Verus Bierce, a lawyer from Akron, Ohio, was in command. This force marched to within four miles of Detroit on 1 December. There it remained for two days. Desertion set in during the halt. On the evening of 3 December, the remainder marched openly into Detroit where other Hunters were quartered in hotels and boarding houses near the foot of Rivard Street. Anchored in the river was the Canadian steamer *Champlain*.[26] A party of Hunters seized her on an arrangement previously made with her owners. The engineers and others of the crew on board were locked in their rooms. She was then moved to the dock at Rivard Street, where at 2:00 A.M., 135 men boarded her. The river was full of ice and it took a full hour to cross to a landing point at the Pelitte farm on the Canadian side opposite about the center of Hog Island, where the water was deep inshore. The men landed, waked farmer Pelitte and demanded something to eat, which he gave them. Another steamer—*Little Erie* most likely—came up carrying a detachment of American troops and ordered *Champlain* off. Their means of retreat now being gone, the men formed and marched down the river road to Windsor. At Sandwich two miles beyond was a force of 500 Canadian militia under Colonel John Prince. As the Patriot force entered Windsor it was fired on by an outguard posted in a frame barracks. The barracks were taken and set on fire by order of General Bierce, the defenders being shot down as they rushed out to escape the flames. A few remained inside and were burned to death. The steamer *Thames,* owned by Duncan McGregor of Chatham, lying at John Van Allen's dock 280 feet above the barracks was also fired, thus destroying another means of retreat. The fires lit up the river and the countryside for miles advertising that something unusual was taking place. The Patriots pushed through the village and took up a position at its western edge at 3:00 A.M. At seven the first detachment of the Canadian militia, Captain Spark's company, arrived from Sandwich, attacked and drove them out of it. Most of the defenders then retreated to the southeast, others up the river. The rest of Prince's force came up during the morning. Prince, enraged at seeing the charred corpses of the men burned in the barracks, behaved in an outrageous manner, ordering four prisoners killed in cold blood. A company of British regulars with a 6-pounder gun reached Windsor

[26] Ex-*Eclipse*, ex-*Adelaide*.

at 1:30 P.M. Prince's force joined it. At 2:00 P.M. they advanced through Windsor and on to the landing place where General Bierce and some of his force had gathered. They now had no means of crossing the river. *Little Erie* with the Brady Guards on board passed. Bierce signalled her to come in, but no attention was paid to him. The fugitives then seized skiffs, canoes and anything that would float and started across the river. The British force came up and fired on them with their 6-pounders. *Little Erie* now took a hand in the affair and also fired on them as they landed on Hog Island. They were then arrested, taken to Detroit in *Little Erie* and there released.

And so ended this disastrous affair, which was witnessed from the Detroit shore by a crowd of about 5,000, with feelings that can easily be imagined. A few left on the Canadian shore escaped by walking around Lake St. Clair to the St. Clair River which they crossed on the ice, suffering intense hardships. The Patriot loss was 25 killed and 44 taken prisoner. These were taken to London[27] where they too were tried by court-martial, all but one being found guilty and sentenced to death. Seven were hanged in the courthouse square. Nineteen were later pardoned and returned to the States the following year, while sentence on the remainder was commuted to transportation to Van Dieman's Land for life.[28]

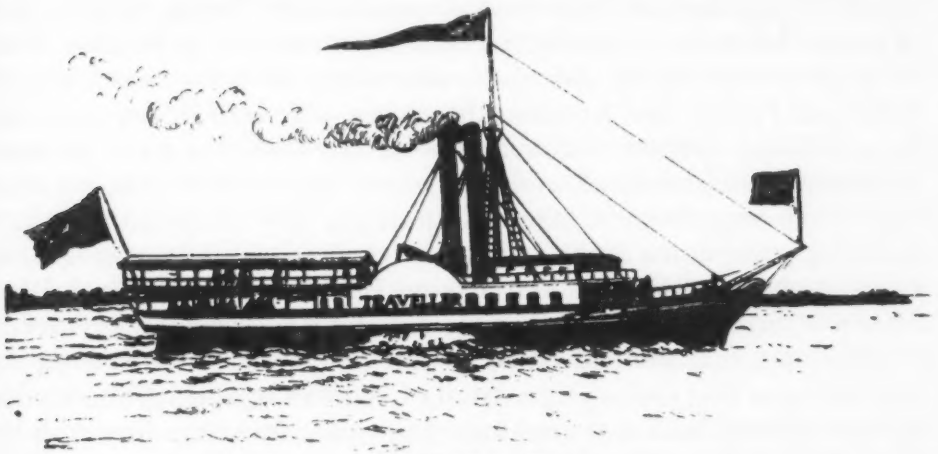
The Battle of Windsor ended the open military operations of the Patriots. Because of the gross incompetence of the leadership and the debacles of the windmill and Windsor, their movement fell into discredit. The large increase in British troops in the province, with thousands more on the way, patrolling of the lakes and closer guarding of the border by both British and American troops, made further attempts at invasion unlikely. The war was now over. Nevertheless the Hunters busied themselves with new plans for an attack on the Detroit River front. Nothing came of them because of lack of funds. The British however continued to augment their naval forces. On 12 January 1839 Gilkison recorded in his diary that he was: 'employing men to make gunboat for Govt, will be more like a scow than a boat, such are my orders, will cost £300. She may answer their intended purpose.' One week later he wrote: 'Gunboat is half planked, will be finished in a week. She will be a thorough going tub.'[29]

27 London, Ontario.

28 These were pardoned in 1844 and returned to the United States and Canada. Robert B. Ross, 'The Patriot War,' *Michigan Pioneer and Historical Society Historical Collections*, XXI (1894), 555-564, 573-574.

29 Augusta Grant Gilkison, *Early Ship Building at Niagara* (Niagara Historical Society, No. 18), pp. 33-34.

While Durham had spent but five months in Canada and but three days in the upper province, he had probed deeply into the ills that had caused the troubles. His report on the affairs of British North America—made known in Canada in early April through the American press—pleased the reformers but angered the Loyalists and stirred up a new nest of trouble. American ships were now subjected to annoyances and attacks by the truculent Canadian militia and Loyalist partisans, some of which



H. M. S. *Traveller*

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involved steamboats.[30] *United States* had become one of the pet aversions of the Loyalists because of her activities in the Battle of the Windmill. Released from the toils of the law, she was put back on her regular route under Captain Joseph Whitney, when the season opened. On the evening of 14 April, she became the target for from six to ten rounds fired by a party of men lined up on the wharf at Prescott, as she passed on her first trip. No harm was done. That same evening she was again fired on as she passed the wharf at Brockville.

[30] On 15 April the schooner *G. S. Weeks* of Oswego was seized at Brockville by some Canadian militia officers, and a small cannon, consigned to the artillery company at Ogdensburg, was taken from its deck. They refused to surrender it on the order of Colonel Young, the British officer in command there. Their men dragged the gun around the town and fired it several times in honor of their victory. Young sent to Kingston for regular troops. Before they arrived, Colonel Worth appeared on the scene with a company of United States troops in the steamboat *Oneida* and demanded the surrender of ship and gun, which was also refused. For some hours there was danger of a collision of forces, when a steamer arrived from Kingston with Sir George Arthur and two companies of British regulars. Both vessel and cannon were given up on formal demand by Colonel Worth. Arthur roundly dressed down the Canadian participants in the affair.

Other similar incidents during April were the attacks on the schooner *Pardee* of Oswego at Brockville and that on the schooner *Stephen Girard* of Oswego on 18 April as she passed the last lock of the Welland Canal at Gravelly Bay.

On the sixteenth and seventeenth of the month, a large fire, suspected to be the work of incendiaries, destroyed about half of the business district of Ogdensburg including the post office, with a loss of nearly $100,000.00. On the twenty-fifth a Canadian steamer, said to have been *Traveller,* was subjected to 'almost insulting ransack,' while lying in the harbor of Rochester. A report was spread throughout the town that two prisoners bound for Van Dieman's Land were on board. Mackenzie[31] heard of it and hurried to the port accompanied by the sheriff and a party of armed followers to search her. The report proved to be false. These incidents stirred up the old resentment along the frontier and gave the bitter-end Patriots and Loyalists the excuse to go into action once more. Barn burning, robbery and looting broke out along the river sections of the border, and continued on through the summer. Annoyance of American vessels recommenced. On 4 August, the new American steamer *St. Lawrence,* going down the St. Lawrence, was fired on while passing Brockville by an armed British vessel lying in the stream. Colonel Worth demanded an explanation and was told that it was feared she was carrying Patriots, and that she had failed to halt or show her colors. Four days later an open boat conveying a detail of Worth's regiment from Ogdensburg to French Mills was fired on with musket shot near Cornwall by a party of Canadian volunteers at about 12:00 noon. One man was badly and dangerously wounded. The detail was in uniform and could not have been mistaken. Worth started down the river to look into the business. A British apology was sent to Sacketts Harbor on the fifteenth. The firing was absolutely unauthorized. On the evening of the ninth, as *United States* was leaving the port of Rochester, she encountered and collided with *Great Britain.* Both were very much injured. A large break was made in *United States* and *Great Britain* lost most of her deck, in so much that her boilers were entirely bare. *United States* immediately returned to make repairs and after a short time again put out. After going forty miles she was obliged to return on account of heavy leakage and a strong head wind.[32]

After the conviction of Mackenzie, the Patriot movement slowly slid into the discard, but the British were taking no chances and were still taking steps to increase their naval forces on the lakes. On 25 August, Captain Harper, R.N., informed Gilkison that the government was to build a steamer for Lake Erie and that he was to construct it at either Chippewa

[31] Mackenzie and other Patriot leaders were finally brought to trial in the Federal Court in June 1839 for violation of the neutrality laws and, much to their surprise, were found guilty. Mackenzie was fined $10.00 and sentenced to eighteen months imprisonment. Many friends petitioned Van Buren for his release. The Senate joined in with a petition of its own, and he was released on 10 May 1840.

[32] *Niles National Register,* LVI (1839), 400.

or Dunnville as he saw fit. He chose Chippewa.[33] Others were being considered for Lake Ontario.

The fall and winter passed in comparative quiet. The season of 1840 opened with the burning of the Canadian steamer *Burlington*. She took fire while lying at the government wharf in Toronto. A report was spread about that there were two kegs of gunpowder aboard. The firemen feared to go on the wharf, until one of the crew said the powder had been landed at Port Darlington. The flames were then brought under control but with much difficulty. The fine deck works were destroyed and the engines seriously damaged. The loss on the ship was £2,000 and on the cargo £500.[34]

On 17 April, Good Friday, at about 4:00 A.M. the people of Queenston and Lewiston were waked by a report like that of the heaviest artillery. On looking out of their windows a column of smoke was seen slowly ascending from the tall shaft of the Brock monument on Queenston Heights. As the smoke drifted away, the monument was seen to be rent and shattered from turret to foundation stone.[35] This act of vandalism, the work of Benjamin Lett[36] and associates aroused much indignation on both sides of the line.

About midnight of the same day a fire started in Kingston in one of the warehouses on the Ottawa and Rideau wharves which threatened to destroy the city. It was supposed to have been caused by sparks from the smokestack of *Telegraph,* which was firing up to move in to them for shelter from a tremendous storm which was then raging. It spread quickly throughout the warehouses and fifty kegs of powder exploded. Before it was stopped at 5:00 A.M. Saturday, the wharves, the steamer *Cataraqui,* two schooners, one of them *Dora Nelson,* the office of the Lake Ontario Steamboat Company and 75 nearby houses comprising the heart of the business port were destroyed, along with an immense quantity of goods, 10,000 barrels of flour, pork and potash. The customs house was nearly destroyed by a beam blown against it. The loss was $1,000,000.00, part government and part private.[37] On 6 June, Lett and another Canadian

[33] Gilkison, op. cit., pp. 34-35.

[34] J. Ross Robertson, *Robertson's Landmarks of Toronto* (Toronto, 1896), pp. 614-615.

[35] *Niles National Register,* LVIII (1840), 144.

[36] Orangeman, Canadian rebel, Lieutenant in the Patriot army. He was one of the party of nine Canadians under Samuel P. Hart, which sailed from Oswego on 26 July 1839 in the schooner *Guernsey* to rob the bank at Cobourg to secure funds for the cause and to kidnap Lieutenant Sheppard McCormick, participant in the *Caroline* affair. McCormick had been made custom house officer at Cobourg, but was not at this time in office. The party intended to turn him over to the New York authorities for trial. They were informed on, and the gang was rounded up by the Cobourg authorities. Lett however escaped.

[37] Robertson, op. cit., p. 873. *Daily Chicago American,* 30 April 1840.

refugee named David Defoe attempted to destroy *Great Britain* at Oswego. Just before she left port Defoe brought on board a trunk containing copal, turpentine, nitre and cotton, packed in cotton to which a lighted slow match was attached. It was placed with other baggage in front of the doors of the ladies' cabin and exploded a few minutes after the boat left the dock. It did not accomplish the destruction intended. Only a few windows in the ladies' cabin were broken and the skylight immediately overhead blown out. The fire was quickly extinguished. The boat put back into Oswego and Defoe was arrested.[38] Their objective in this act of terrorism was the old one of the Patriots, the embroilment of the United States and Great Britain in war.[39] To prevent the occurrence of similar incidents in the future, *Telegraph* was again put into service by the Federal Government. Bill Johnson came on the scene again when he issued a proclamation warning citizens of Rochester not to patronize, on pain of their lives, two pleasure trips to be made by the British steamer *Gore*, Captain Dick, on the Fourth of July from the landing at Carthage, as advertised in the Rochester and Toronto papers. He roundly denounced Captain Dick and the owners of the boat as violent British Tories and enemies of American democratic institutions. The document was signed: 'By command of his Excellency, Benjamin Lett, P.C. On board the flagship *Revenge* off the Ducks.'[40]

The tension along the frontier would have eased off had it not been for the intransigeance of the Loyalists, the large increases in the British forces, the loose talk in their newspapers of war with the Americans and of the ease with which Detroit, Buffalo, Rochester and Oswego could be burned. They made demands constantly for more and more regulars for protection against raiding and invasion and for use if war did come. The military command was sure it could control Lake Ontario, but uncertain over that of Lake Erie. In May, the Federal Government received reports that a ship of 500 tons would be launched the following month in Upper Canada[41] and that a second was to be built immediately thereafter.

The destruction of the Brock monument gave occasion for an imposing naval demonstration. To raise funds to rebuild it, a large meet-

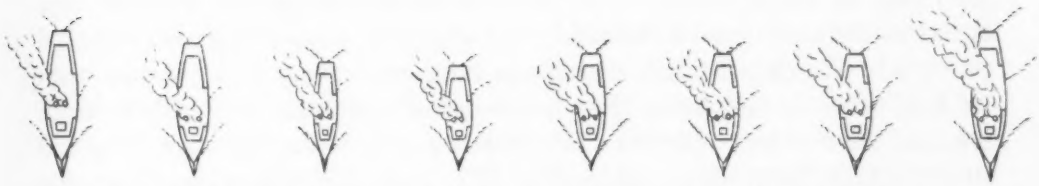
[38] Franklin B. Hough, *History of the Jefferson County in the State of New York* (Watertown, N. Y., 1854), p. 528.

[39] Defoe turned states evidence. Lett was arrested shortly afterward, convicted and sentenced to seven years in the state prison at Auburn. He escaped while being taken there by jumping off the train about four miles from that place.

[40] The Ducks are small islands at the eastern end of Lake Ontario. Robertson, op. cit., pp. 873-874.

[41] Most likely the warship being built by Gilkison at Chippewa.

ing was arranged by the Canadian militia and others to be held on the site on 30 July. Steamboat excursions were arranged to bring people from the north shore of Lake Ontario to Queenston. Four steamers left Toronto at 7:30 A.M. on the date set. *Transit,* Captain Hugh Richardson, decked out with evergreens and flying the colors of England, Scotland and Ireland and the standards of the national societies, and *Queen Victoria,* Captain Hugh Richardson Junior, also decorated with flags, ensigns and streamers left first. *Gore,* Captain Thomas Dick, bearing aloft a mighty Union Jack, followed immediately. As she passed the garrison wharf, Lieutenant-Governor Arthur and his staff boarded *Traveller,* Captain Sandom, R.N., in command, and were received by a guard of honor of the Thirty-Second Regiment. The band of the Thirty-Fourth was also on



Brock Excursion moving up the Niagara River. 30 July 1840.

board. She left immediately. On approaching the mouth of the Niagara, two steamers were seen approaching from the direction of Hamilton, while on the left, a leviathan was coming in from the east. Each steamer was received with a salute and hearty cheers as it approached the wharf at Niagara. Waiting there but a short time the seven steamers joined by another already there formed in line and moved slowly upstream, *Traveller* on the right, bands playing and ensigns streaming, the royal standard of England flying from the mast-head of the *Traveller.* Of these boats the last named alone was in the government service. Crowds lined the steep banks and followed them to Queenston where they docked and landed their passengers. The meeting was held and it was decided to rebuild the monument, but sad to state, after all this enthusiasm it took twenty years to do it.[42]

On 9 October Lord Sydenham,[43] Governor-General, recommended

[42] Robertson, op. cit., pp. 874-875.

[43] Charles Poulett Thompson was sent out to Canada in September 1839 to secure the approval of the Assembly of Upper Canada to the enactment of the Act to Reunite the Provinces of Upper and Lower Canada, and to put it into effect. This Act, based upon Lord Durham's recommendation, became law on 23 July 1840, and went into effect 5 February 1841. Thompson was made Baron

to London that a steamer be built for service on Lake Ontario and that a ship be built in addition to that under construction at Chippewa, one that could be used in the narrow channels of the Detroit and St. Clair Rivers.[44] Orders for their construction were given by the Admiralty later in the year. All would have been well between the two countries but for the *Caroline* affair. Its approval by the authorities in Canada and the failure of the British Government to do more about it than merely acknowledge receipt of the protest of the United States Government rankled. Since the destruction of that ubiquitous steamer, the people of the Niagara front and the New York authorities had been looking for participants in that affair. Several suspects had been taken up but were let go for lack of evidence. Among them was Deputy Sheriff Alexander McLeod who had made himself thoroughly obnoxious along the American side by his activities in securing information against Patriots captured in the raids across the river. He was picked up twice and released twice. He was then foolish enough to brag in a tavern at Lewiston, that he had been in the party that had burned the boat and killed Amos Durfee. He was arrested on 12 November and jailed at Lockport. He was just the man they were looking for. The roar this time came from the Loyalists and the British. It now became a matter of British policy to secure his release without trial. This was asked for by Mr. Fox, British Minister at Washington, on 13 December. He claimed that the destruction of *Caroline* was the public act of persons obeying the constituted authorities of Her Majesty's Province, and in reply was informed that McLeod was in the hands of the New York courts and that the case must take its course. The grand jury of Erie County indicted him for arson and murder. The destruction of *Caroline* was now formally avowed by Great Britain. Palmerston admitted that the vessel had been destroyed under orders as a necessary means of defense against American pirates and demanded his immediate release, adding that his execution would lead to war, war immediate and frightful in its character because it would be a war of retaliation and vengeance.

Efforts were now made to have him released on bail. He was discharged from custody by Judge Bowen on 27 January 1841, one William Buel and another citizen giving the requisite bail of $5,000.00. But no sooner was he released than a numerous band of men, two or three hundred in

Sydenham of Kent and Toronto for his good work in this connection. By this act, Upper and Lower Canada became the United Province of Canada, and Upper Canada became known as Canada West, and Lower Canada as Canada East.

[44] Corey, op. cit., p. 153.

number, seized him and put him back in prison. The crowd had a cannon and fired it for amusement. It likewise had drums and bugles and demonstrated by marching around the jail. It took over the jail and expressed its indignation at the judge's action.[45] Further attempts to bail him were not made. Now followed eight months of tension heightened by threats of war.

British naval construction proceeded on schedule. On 2 December 1840, the *Kingston Chronicle* reported that, 'Her Majesty's new steamer *Minos*, recently built at Chippewa, has received her machinery, and proceeded up Lake Erie a few days since on her trial trip. She is very strongly built and goes at the rate of twelve miles an hour.'[46] *Minos* was 136 feet long, 24.17 feet wide and had a depth of hold of 13 feet and a tonnage of 362. Her engines were built by Ward and Company of Montreal and worked up to 90 horsepower.[47]

Weeks of legal maneuvering followed McLeod's indictment. Congress took notice and the case became the subject of a long heated debate. When the news of the indictment and the debate became known in England, the excitement over him, which had hitherto been moderate, became intense. A British officer had been arrested in the discharge of his duty and jailed like a common criminal and now he was to be tried for arson and murder. This, said the papers, was an outrage, an insult. It was intolerable, and it became a point of honor to secure his release without trial. There would be war if McLeod were executed. In the United States the feeling ran just as high, and demands were made on Congress that provision be made for the defense of the frontier and for warships on the lakes. Van Buren had been defeated for re-election the November previous, partly because of his fumbling of the *Caroline* affair and the consequent troubles. Harrison, his successor, died one month after taking office. Daniel Webster, his Secretary of State, continued in office under Tyler, who followed Harrison in the presidency. A stronger policy was to be followed. Legal technicalities postponed McLeod's trial until June. The case was then taken to the New York Supreme Court, which upheld the jurisdiction of the lower court. He could now take his suit to the United States Supreme Court, but having already been in jail for eight months and not wishing to remain there until the court handed down its opinion, he chose to be tried in the lower court.[48] A change in venue

[45] *Niles National Register*, LIX (1840-1841), 368.
[46] Robertson, op. cit., p. 876.
[47] Admiralty to H. A. Musham, 15 October 1946.
[48] Corey, op. cit., p. 134.

shifted the trial to Utica and set the time for early October.

Patriot hostility now flared up again. On 18 September, *Minos* and *Toronto* were fired on from Navy Island, as they lay in the river at Chippewa, by some Patriots who had taken a field piece over from the American shore for the purpose. About the same time an attempt, partially successful, was made to blow up the lock in the Welland Canal at Gravelly Bay. A rumor was rife that the Patriots intended to seize and kill McLeod. Another was that the Loyalists were organizing an expedition to rescue him. Special precautions were taken for his safety.

There was much concern for the safety of the frontier and considerable apprehension for *Minos* and *Toronto*. Their presence was a clear violation of the Rush-Bagot agreement, as they exceeded the limits allowed on tonnage and in armament. A fortification bill carrying an appropriation of $100,000.00 for armed steamers on the lakes was passed on 9 September, after a long debate. Governor Seward of New York, on 17 September, transmitted to Webster a report on *Minos,* which rated her as a steamship of war of 500 tons burden, prepared for eighteen guns and having a pivot carriage on deck ready to mount a 68-pounder. It was calculated to be manned by seventy-five men and was furnished with a full complement of muskets, hatchets, boarding-picks, cutlasses, etc. *Toronto* was also reported to be of equal tonnage and capacity for war.[49]

General Scott laid plans before the President for meeting the situation, which recommended that four steamboats be purchased and fitted out for service on Lake Erie and that *New Orleans,*[50] the ship of the line still on the stocks at Sacketts Harbor, be finished as a steamer. Serious consideration was given to these ideas; that for Lake Erie was eminently practical as there were several steamers in service of much larger tonnage than either *Minos* or *Toronto* that could have been easily and quickly strengthened for naval service. As for *New Orleans,* inspection showed part of the hull was too much affected by dry rot to be worth finishing.[51]

The Patriot War had impressed upon the British and the Canadians the inadequacy of the Welland and Rideau Canals as adjuncts to the

[49] James Morton Callahan, *The Neutrality of the American Lakes and Anglo-American Relations* (Baltimore, 1898), p. 115.

[50] *New Orleans,* started by Henry Eckford on 24 December 1814, if completed would have been a monster ship even for 1841. She was to have been a three-decker of 3200 tons burden, and to have carried 110 guns. Her dimensions were: length over all, 274 feet; length on keel, 185 feet; depth of hold, 47 feet; draft, 27 feet. To have made her into a steamer would have necessitated cutting her down one deck and possibly two. Even then, she would have had a very heavy hull, have been very clumsy and hard to handle, but when suitably armed would have easily cleared the lake of British ships.

[51] Callahan, op. cit., pp. 117, 123.

defense of the provinces, and not only that but of their limited use for commerce occasioned by the small size of their locks and their shallow depths. If Canada West was to remain British, then the Welland Canal must be enlarged, and canals built around the rapids of the St. Lawrence to permit passage of ships of the largest size in service on Lake Ontario and on the lower St. Lawrence. Such improvements were beyond the financial capacity of the provinces but the money was forthcoming, Great Britain having promised loans for public work to secure their approval of act of reunion. These the Canadians decided to spend on these projects.

Steps had already been taken to improve the Welland Canal. There had been considerable criticism of its management. In 1839, the provincial legislature authorized the purchase of all privately held stock, but the disturbed condition of the times held up action until 1841. The canal then became a government enterprise. At first it was intended only to rebuild the old wooden locks in stone and then make them 120 feet long, 24 feet wide with 8.5 feet of water on the sills. But it was realized that while it would improve the canal and reduce maintenance costs, it was not much of an improvement as far as navigation was concerned. The size of the locks was increased materially. Work was started in 1842 and completed in 1845. The new canal was 27.2 miles long from Lake Ontario to Lake Erie and 9 feet deep, with 27 locks, 24 of which were 150 feet long and 26.5 feet wide; 2 of which were 200 feet long and 45 feet wide, and one 230 feet long and of the same width. Had all the locks been given the larger dimensions, the new canal would have been a magnificent improvement. As it turned out the new canal was not much better than the old either for defense or commerce.

The canalization of the St. Lawrence was a more difficult matter. The existing canals were too small for any craft other than batteaux and Durham boats. While several steamers had attempted to ascend the rapids under their own power—a few of them planned and built to do it —none had succeeded. The only one to pass up the Long Sault was the little *Dolphin*. In November 1838, she was towed up the rapids by twenty yoke of oxen, assisted by horses and capstans, and with engines working, after four weeks of incesssant toil.

The canal around the Long Sault was the first to be started. Its construction had been recommended in 1818 by a joint commission appointed by the governments of both provinces. In 1832, the Assembly of the upper province approved an appropriation of $280,000.00, for

the improvement of the river to accommodate vessels drawing nine feet of water, stipulating that the Cornwall Canal around the Long Sault was to be completed before the others leading to Ontario were undertaken. Work was started in 1834, but was retarded by the Rebellion. It was opened to navigation in 1842 and completed the following year. As finished it was 11.5 miles long, 150 feet wide at water level, 100 feet on the bottom and 9 feet deep. It was fitted with 5 locks each 200 feet long by 55 feet wide, with a total lift of 48 feet. It extended navigation from Lake Ontario down to the lower end of Lake St. Francis. The second canal to be built was the Beauharnois, by-passing the Cascades, Cedar and Coteau Rapids. Work was started on it in 1842 and completed in 1845. It was 11.25 miles long, and had 9 locks of the same length as those of the Cornwall Canal, but only 45 feet wide, with a total lift of 82.5 feet. This extended navigation to the head of the Lachine Rapids, the fourth and last obstacle in the river between Lake Ontario and the sea. Work was started in 1840 on the enlargement of the existing canals and finished in 1848. When it was completed in 1848, the new canal had a width of 120 feet at the surface of the river and of 80 feet on the bottom. It was 11.5 miles long and was fitted with five locks of the same size as those of the Beauharnois Canal, but with a total lift of 48 feet. The way to the sea was now open to vessels of less than 200 feet overall length, less than 45 feet in width and drawing not over 8.5 feet of water, the rapids about 8 miles below Prescott not being enough of an obstacle to stop ascending steamers, but they could stop barges and sailing craft. There were four rapids to be by-passed, the two Galops, the Rapide Plat and those at Farren's Point. Four canals were constructed with a total length of 11.75 miles, on which work was started in 1844, and completed in 1847. They were fitted with six locks with a total lift of 18.5 feet, of the same size as those of the Beauharnois Canal. With the completion of these canals, the St. Lawrence may be said to have been conquered and the way was open for the safe navigation of both steam and sail craft between fresh and salt water.

The Erie Canal and its main branches, the Oswego and Champlain Canals, were just as inadequate for defense purposes and steam navigation, as were the Canadian Canals. The congestion on the Erie called for its early enlargement. It was proposed in the early thirties that the channel between Oswego and Albany be made into a ship canal, the logical solution to the problem, but Buffalo and the other towns along with other interests along the main canal between Syracuse and Buffalo, managed to have it rejected. Enlargement of the Erie to a surface width

of 70 feet, a bottom of 52.5 feet and a depth of 7 feet, had been ordered in May 1835, the cost of which was to be paid out of its revenue. Work had been started when the panic of 1837, and the depression which followed made the project an uncertain matter. The finances of the state were in bad condition and the work dragged on until 1842, when the state legislature stopped all work except that required for maintenance and repair. At this time the old project of a ship canal around Niagara Falls was revived. The Secretary of War stated in his report of 1 December 1841, and in other reports in April and May 1842, and Quartermaster T. O. Jessup in his report to the War Department, recommended measures to be taken at once for a canal around Niagara so that vessels of war could pass between the lakes. Various routes were studied but nothing came of the proposal, and it was dropped as others to the same effect had been in earlier years. Had it been built, and the Oswego Canal and the Erie from Syracuse to Albany, been enlarged to the same cross-section and with the same size locks, the defense of the lakes country would have been insured, and a deep water channel would have been provided from New York to Chicago, that would have been of inestimable value not only to New York, but to the whole Great Lakes country as well.

McLeod's[52] trial opened on 4 October at Utica with the frontier in a state of high tension. The town was crowded with people and precautions were taken to insure that no untoward event took place. Several witnesses, among whom was Sir Allan McNab,[53] proved an alibi for him on the night *Caroline* was destroyed. He was acquitted on the twelfth and was safely and quietly taken to Oswego under the instructions of Governor Seward. There he boarded *Queen Victoria* for Canada.[54] And so ended one phase of the *Caroline* affair. The excitement now subsided.

A new British Ministry, more conciliatory to the United States than the old, had taken office in London in August 1841. Neither country wanted war and there were no differences between the two countries that could not be adjusted by negotiation. Accordingly Viscount Ashburton was sent to Washington in the spring of 1842 with wide powers

[52] McLeod was between forty and fifty years old. He was rather above the common stature, strongly built, with an ordinary cast of countenance and red or sandy colored hair and whiskers. [*Chicago Daily American*, 18 May 1841] According to a correspondent at the trial, he looked 'well and hearty, but much older than when we saw him three or four years ago. A phrenologist would describe him as of sanguine temperament, with fair intellect, his moral perceptions of right not very strong, the organ of destructiveness large, showing that he possesses as I know he does abundance of brute courage. With him amativeness is very strong; and his high cheek bones and his whole countenance is wholly Scotch.' [*Chicago Daily American*, 13 October 1841]

[53] McNab had been knighted as a reward for his part in the *Caroline* affair. Both he and Drew had been voted swords of honor by the Assembly of Upper Canada.

[54] Callahan, op. cit., p. 117.

to settle all controversies.[55] The *Caroline* affair was the crux of the negotiations. Webster informed him that it was a wrong and an offense against the sovereignty and dignity of the United States, being a violation of their soil and territory. Ashburton informed his government that its settlement was expected, that without it nothing could be settled, and that as long as it was not settled, it would be impossible to say from hour to hour that circumstances may not bring on collision between the two countries.[56] The British Ministry saw the light. Ashburton replied: 'the British officers who executed this transaction, and their government who approved it, intended no slight or disrespect to the sovereign authority of the United States,' that what was most to be regretted was, 'that some explanation and apology for this occurrence was not made immediately.' The apology was accepted, but no reparation was made to William Wells for the loss of his *Caroline* or compensation paid for the loss of the life of Amos Durfee. He lay a'mouldering in his grave. And so ended the *Caroline* affair, the affair that brought on the Patriot War, in which it was proved conclusively that steamboats were adaptable to and could be used successfully in military and naval operations.

[55] The negotiations were successfully concluded by the Treaty of Washington, known as the Webster-Ashburton Treaty, signed at Washington on 9 August 1842.

[56] Corey, op. cit., p. 179.

Salvors versus Sea

BY PHILIP H. COOK

POETS and novelists are prone to regret the passing of the 'great days of sail.' The towering windjammer carried with her an atmosphere of adventure in distant seas; one heard of Cape Horn gales, of disastrous shipwrecks and mysterious disappearances. The impression left is that the modern vessel proceeds on its course as steadily and truly as a cash-carrier in a department store, with the same certainty of safe arrival, and that the narrative of its voyage will not be more exciting than the financial report of that same store. But although modern science has lessened the perils of the sea, it has not eradicated them. Man's control of the elements remains imperfect; winds and currents play strange tricks; the human element remains; and from the combination there still develop situations as dramatic as those of the past. The romance of the sea did not pass with the last clipper ship.

The salvors of the ship *Crystal Palace*[1] worked on a tropical island with native help plus their own resources; they won through. But today, thanks to modern methods of communication, these resources can be promptly backed by others which make possible feats of salvage that would have been impossible to the stout-hearted mariners of an earlier generation. For the romance of adventure our age has substituted that of mechanical magic. Kipling's story 'The Devil and the Deep Sea' is fiction; that of the steamship *Steelmaker* is true.

This vessel of 6187 gross tons, built at Kearny, New Jersey, in 1920, and owned by the Isthmian Line, a subsidiary of U. S. Steel Corporation, left New York on 2 November 1927 under command of Capt. F. S. McMurray, bound for Panama Canal, Brisbane, Sydney, Melbourne, Adelaide, Batavia, Samarang, Sourabaya, Belaware, Singapore and Noumea. At Noumea, in New Caledonia, she took on a partial cargo of 5000 tons of chrome ore. She also had about 500 tons of rubber seed.

[1] THE AMERICAN NEPTUNE, III (1943), 314-326, IV (1944), 31-44.

She left Noumea at 3:40 P.M. on 24 March 1928 and at 4:40 A.M. on 28 March she struck Nukulailai Reef on Mitchell Island in the Ellice group. In answer to a radio call, the Navy sent a tug from Samoa, but its facilities were not equal to the salvage job. The tug, however, stood by and gave succor and assistance, pending further measures.

Meanwhile the Isthmian Line made arrangements with the Merritt-Chapman & Scott Wrecking Corporation, and on 3 April their large wrecking tug *Peacock* left San Pedro, California, for the trip of 4883 miles, one of the longest salvage voyages ever undertaken by the Corporation.

While *Steelmaker* awaits assistance, let us look into the reasons for the stranding. Mr. Logan Cresap, Marine Superintendent of the Isthmian Line, in a personal communication from which most of this portion of the story is taken, tells an interesting tale.

> The weather for several days prior to the stranding had been overcast with occasional showers and with practically no opportunity for any celestial observation. The writer of this letter in making his investigation visited the U. S. Hydrographic Office to seek more information than the charts or sailing directions gave, and talk the apparently inexplicable stranding over with the Hydrographer. A fascinating point was brought out during the course of this conference; namely, that the counter equatorial current which normally flows to the Westward in the neighborhood of the Ellice Islands, had reversed itself and been flowing for some days to the Eastward. Not only was this explained by Dr. Littlehales as sometimes occurring under certain weather conditions prevalent over the continent of Australia, but was in the records of the Hydrographic Office in the form of a report from a Japanese ship which had passed over the same route that the *Steelmaker* was making just about three or four days before, and the master of the Japanese ship reported the prevailing current being to the Eastward rather than to the Westward as had been expected. This cleared up the subject, because allowance had been made by the master of the *Steelmaker* for a Westward current, and the existence of the Eastward current slowed him down on his course to the Hawaiian Islands and at the same time forced him to the Eastward and Southward of his course, and caused him to fetch up on Mitchell Island, one of the northern islands of the Ellice Group, separated from another group of similar islands and atolls to the North by open water about 60 miles in width.

Captain McMurray, a graduate of the old *St. Mary's* and at one time Superintendent of the New York State Merchant Marine Academy, was thus freed from blame.[2] He served the Isthmian people long and well.

The report of R. S. Gardner, salvage officer for the wrecking company, now takes up the tale. On 2 April the California office was ordered by the management in New York to send out *Peacock,* which left next day in the

[2] During World War II he returned to the service of the line and commanded a number of vessels. He is now living in retirement in Miami, Florida.

face of a strong northwest gale. She was forced to turn back after a few hours, having sustained considerable damage, but a new start was made on the next day, and on the twenty-first she arrived beside the stranded *Steelmaker*.

The ship had stranded at full speed, and now lay at an angle of about 30 degrees to the reef, listed about 6 degrees to port and nearly stern to the swell, which was heavy. The ocean bottom, consisting of hard coral ridges, was visible from the stem to #3 hatch. Holds #1 and #2 were full to sea level. She was resting heavily under #2 hatch with both ends rising and falling with the swells. Some cargo had been jettisoned. Captains Gardner and McMurray consulted with Lieutenant Green of the Navy tug *Tanager*, and the latter vessel, having done all it could, sailed for Samoa.

Next day 6-inch and 12-inch pumps were set up on #2 'tween deck hatches with suctions leading into #2 hold. The water level was lowered, but promptly refilled on cessation of pumping. The test was not a success.

23 April. Another 12-inch centrifugal motor pumping unit was put aboard; ore dug away with clam-shell bucket to give space for suction. 'During the evening the swell increased and about 9:00 P.M. the ship started working heavily.'

24 April. All pumps working on #2 hold; water lowered 7 feet 2 inches in two and one half hours; after cessation it raised 2 feet 8 inches in one hour; 'it was evident that the leaks in this compartment were serious, but with the pumps available on the *Peacock* it was thought possible to control the water.'

A diver went down on the starboard side; he found the vessel 'resting from a point about abreast of #3 hatch to the centre of #1 hold, bearing point changing with rise and fall of the tides. Due to the heavy surge under the ship he could not examine the hull where clear of the bottom.' But those in charge decided that 'with holds #1 and #2 pumped and about 1400 tons of ore jettisoned, the *Steelmaker* could be floated.'

The wrecking crew started digging out ore and throwing it overboard; after three hours they were relieved by the ship's crew. This work was continued next day; thirty-five native laborers from the island aided. More pumps were set up. The diver tried to wash ore from wings into hatch with a water jet, but was not very successful. Another 6-inch pump was brought out and landed on board with difficulty. The ship was working heavily, and one diver was injured.

30 April saw five pumps in place on #2 'tween-deck hatches; next day

they were tested and found working well; diver plugged a few rivet holes. Three more pumps were set up in #1 hold.

2 May. 'All hands turned to at 2 A.M. and started pumps. . . . *Peacock* put hawser on stern of *Steelmaker* and worked under a slow bell; about 3 A.M. started towing. By 4 A.M. water well down in #2 hold and about 4.30 ship showed considerable life.'

But just at this moment the engineers working in #2 hold were affected by gas from the exhaust from the pumps, largely carbon monoxide, which settled between decks in the hot sultry weather. The attempt to float the ship had to be postponed till the following day.

Work began again at midnight (to take advantage of high water); at about 3:30 A.M. the ship was afloat; by a strain on the beach gear leading from the forecastle head she was hauled about 25 feet clear of the reef, and then slowly towed clear by *Peacock*. 'Two 12" and two 6" pumps, running at full capacity, were required to control the leaks in #2 hold,' but *Steelmaker* steamed slowly to Fangawa Anchorage under her own power, and anchored 'in about 20 fathoms of water off the Missionary's house, Nuka Lailai Island.'

The ship was now afloat, but the salvors' problem was far from solved. The leaks were still uncontrolled, and the nearest drydock was at Samoa, six hundred miles away. A diver went down to determine the condition of ship's bottom. He located three holes on the starboard side about opposite the forward end of #2 hatch. 'Two of the largest holes were choked by means of a half mattress sewed up in canvas. The third hole was wedged. A number of rivet holes were plugged. Due to the strong set of the tide and the continued rolling of the ship, the diver experienced considerable difficulty in holding himself in place while working on the hogging line.' But these measures partially controlled the water.

The weather continued bad, with heavy swell. About midnight on 4 May the vessel swung into the trough of the sea, and all pumps were necessary to hold the water in #2 hold. *Peacock* put a hawser on the stern and held *Steelmaker* head to the sea, which helped somewhat. The diver tried to go down but was unable to work. Number 2 hold now began to fill rapidly and it was evident that serious leaks had developed.

'All hands were called in an effort to work a collision mat over the holes on the starboard side of #2. . . . An attempt was made to work lines under the hull to haul down collision mats, but the tide was running so strong that it carried the hauling lines well aft under #3 hatch, where they fouled on the bilge keel.'

It was impossible to check the leaks and impracticable to attempt tem-

porary repairs under the conditions prevailing at this, the only available anchorage.

'About midnight it was decided to let #2 fill and endeavor to make Pago Pago with this compartment flooded.'

More pumps were installed, the men in #1 hold working in relays because of the heat and the gas. About 9:30 P.M., 5 May, *Steelmaker* convoyed by *Peacock,* got under way for Pago Pago, 663 miles distant. Forepeak and #1 kept clear by pumping; #2 full, with level about one foot below 'tween decks.

About 8:15 A.M. on 9 May *Steelmaker* docked at Government Wharf, Tutuila Naval Station, having made the run in four days, ten hours; she had about two hours available oil supply and very little fresh water. She took oil from *Peacock,* and anchored in the harbor to a government mooring buoy.

Next day divers started operating under #1 hold. They found nearly the whole bottom in this section indented, many rivets out and others loose. They were plugged, but pumping showed little gain on the water. Laminated wooden patches were fitted over holes on the starboard side, but the bulkhead between #1 and #2 was ruptured, and there was much damage on the port side of #2, one crack being about 4 feet long with width of ½ inch, another 18 inches long and ¼ inch wide. With these plugged the water in #1 was well controlled and that in #2 was gradually lowering to below the level of the ore, but leaks in the settling tanks could not be controlled without shifting the ore. This was now undertaken by the wrecking crew, assisted by twenty native laborers under their foreman.

On 6 June Capt. John Johnson, salvage officer, arrived from New York (in *Sonoma* from San Francisco) to assist in making temporary repairs and to proceed with *Steelmaker* on the trip to New York. The manholes having been uncovered, he donned a gas mask and explored the tanks, finding serious damage. He then conferred with Mr. Gardner, and it was decided 'to remove all the ore from tank tops in #2 hold, wedge and plug all holes and cover tank tops in #1 and #2 holds with a layer of concrete, also cement leaks in the forepeak, after peak and settling tanks.'

The Navy agreed to furnish 25 tons of cement (200 bags more were sent from San Francisco and 100 furnished by the Island Government) with other materials for concrete. During the evening of 13 June the bottom of both settling tanks was cemented. The job was completed on the twenty-seventh, the concrete varying in thickness from four to fourteen inches. Ore was now replaced on top of the concrete; the divers had scraped the bottom of the vessel.

Captain McMurray had previously requested Captain Graham, Commandant of the Tutuila Naval Station, to appoint a board composed of naval officers to inspect the ship and report on her seaworthiness for the trip to New York. This board, consisting of Commander Henry B. LeBourgeois, Senior Officer, Lieut.-Commander J. F. Crowell and Lieut. John J. Chew, made its final inspection on 5 July and agreed to issue certificate of seaworthiness. About thirty-four hundred tons of ore had been shifted, some of it twice; the precious rubber seed had been moved to the strong room.

On the fifteenth *Steelmaker* took 3000 barrels of oil from a tanker, and about 10 A.M. sailed for New York, 7690 miles distant. Captain Johnson reported that the voyage was uneventful; one small leak developed on the twenty-first; it was wedged after shifting cargo; what other leakage there was was readily controlled by the ship's pumps. She arrived at Balboa, Canal Zone, on 10 August, and anchored off Quarantine, Staten Island, at 5:15 A.M. on the twentieth.

The final chapter in the career of *Steelmaker* was also dramatic. Mr. Cresap states that 'on April 19, 1942 she was sunk by enemy action in Lat. 33° 52' N., Long. 70° 36' W. Several men were lost and the crew sailed from that position to the North Carolina coast, one boat taking 11 and the other about 14 days.'

In the case of the steamship *Silvermaple* a new method of transmission entered the picture. This British freighter of 5300 gross (9100 D.W.T.), built in England in 1927 and operated by the Kerr Steamship Company of New York, was on a voyage from Batavia to New York with a very valuable cargo of rubber when, on 26 January 1929 she lost her rudder in a heavy storm about 780 miles east of Boston. In response to an S.O.S. the Coast Guard cutters *Mojave* and *Tampa,* twins of 15 knots speed, were sent to the rescue. The weather was very heavy, and the ship drifted so that there was some difficulty in locating her, but *Mojave* reached and put a line aboard her at 12:30 P.M. on the twenty-eighth. A full gale was blowing and the line soon parted under stress. According to the *New York Times'* account, *Tampa* now came up and passed other hawsers. The three ships started for Bermuda, *Tampa* towing and *Mojave* acting as rudder astern of the disabled vessel.

On 2 February the lines again parted; *Tampa* went into Bermuda for further assistance; *Mojave* stood by. Hardly fifty miles had been gained by several days of towing.

Meanwhile, on first learning of *Silvermaple's* plight, her New York

agents had cabled to the English shipyard where she had been built, asking that a blueprint of the lost rudder should be put on radio transmission in London. This was done, and the print, received in New York, was rushed to a shipyard on the Delaware with a hurry order. While the cutters were still laboring at their difficult task, the new rudder stock was completed and delivered in New York, to await shipment to Bermuda.

The Boston Navy Yard now sent out the destroyer *Porter* with new 10-inch and 12-inch hawsers; these proved more satisfactory, and the disabled vessel was towed into Bermuda on 6 February. The damage was apparently greater than had been suspected at first; the Merritt-Chapman & Scott Wrecking Corporation now takes up the story.

> On Feb. 9 our salvage steamer *Willet* left Key West for the job of towing the *Silvermaple* to New York. On Feb. 12 a patented jury rudder, invented by our Capt. W. N. Davis, was shipped from our yard on Staten Island to be installed on the *Silvermaple* and this was attached to the vessel by diver on Feb. 16. The disabled vessel was towed into New York harbor by the *Willet* on Feb. 23.

The new rudder stock, probably the first ever built from a radioed plan, was installed later; the date does not appear on the record.

On 9 August 1931 the 517-foot *Western World,* a Munson liner of 13,712 gross tonnage, built at Sparrow's Point, Maryland, in 1922, while proceeding through a fog on the coast of Brazil, ran aground on San Sebastian Island. The place was called Pedra Dura [hard rock] on Point da Boi, and was a notorious maritime graveyard. The ship ran high up into a cove and her bow was wedged in the rocks.

Captain Thomas Simmons, a man of long experience with the line, sent out an S.O.S. The Hamburg-South American Line's *General Osorio* responding, took off the eighty-seven passengers and conveyed them to Rio.

In response to the same call the Munson people sent a tug from Santos, but it broke down in attempting to move the ship. The *New York Times* reported that 'Holds 1 and 2 were flooded and position precarious. The size of the hole in the plates was estimated at 600 sq. ft.'

On 15 August a salvage ship arrived from Rio; the cargo was removed; there was thought to be no hope of towing off.

On 26 August Captain Foster of Merritt-Chapman & Scott Wrecking Corporation arrived and took charge of operations. According to a personal communication from Mr. C. A. Beckley, vice president of the company, he found the ship's condition as follows:

She was head on to the rocks, and due to the grinding from sea action the bow section was practically severed from the 28-ft. draft mark on the stem on a diagonal line downward to the ♯12 frame which was located at the after end of ♯2 hold.

Captain Foster started the building of a heavy water-tight bulkhead in ♯3 hold while some divers cut away the bow plates and others blasted out a pinnacle rock which projected through the broken bottom. Meanwhile one of the Corporation's salvage steamers was on the way from Kingston, Jamaica. It arrived on 3 September and immediately started a steady traction on the stranded vessel, while the other operations were continued. On 8 September this technique, with the addition of beach gears, proved successful. The ship was floated and towed to Rio with the *bow open to the sea*. Reaching that port on the tenth, she was immediately docked and sixty feet of the bow section filled with cement. A little later she started home under her own power.

The Munson people ascribed the success of the operation to the large reserve of safety in the bulkhead; a press report said 'A ship had been saved from the Point da Boi rocks, on which 18 vessels have foundered in the past fifteen years.'

In October 1921,[3] the tanker *F. D. Asche,* a 461-foot vessel of 8293 gross tonnage, built at Newport News in 1918, left New York for Texas, to load oil. She was constructed on the Isherwood system, with nine athwartship and one central bulkhead, producing tanks 30 by 20 feet, and of a depth from the upper deck to the ship's bottom.

Three days after leaving port warning was received of a hurricane coming up from Yucatan Channel, and forty-eight hours later it struck her off the Florida coast. She rode out the gale, but grounded unexpectedly on 27 October. According to the report by R. G. Skerrett:

She was stopped, anchors dropped and tanks flooded. Daylight showed her on the outer line of Matanilla Reef and in 5 fathoms of water. A survey showed two-thirds of the bottom injured, if not torn away entirely. The bottom plating of starboard tank ♯4 was almost completely detached, so that men looking from the main deck could see through the bottom to the rocks. The pendent plating caught in a crevice of the reef and held the ship. One bulkhead at the forward end was crumpled up and fractured.

A salvage master, who arrived 30 October, decided on the use of compressed air. Air-locks and a compressor were installed, and by 9 November

[3] Robert G. Skerrett, 'A Ship Without a Bottom,' *Scientific American,* CXXVI (1922), 256-257. In this article no year is given for the grounding of *F. D. Asche,* which is described as 'a while back.' Precise days of the month are given, and as the article appeared in April 1922 it is to be assumed that the grounding occurred during the previous October [1921].

the vessel had been raised six feet; it was stopped by the grip of the hanging bottom on the reef. At considerable personal risk, a diver attached a cable to this jagged piece, and with the use of a 100-ton winch it was pulled out and fastened in normal position by chains.

Many leaks in the battered skin were now closed from above downward. The work on the ruptured bulkhead between tanks 3 and 4 was of particular interest. 'This bulkhead was plugged with successive layers of newspapers; this held because air in tank #3 was under slightly greater pressure than in #4.'

The water level was now being lowered and the ship lightened. Her special type of construction made it possible to feed compressed air to all the flooded compartments by means of the pipelines, and this was done, oil-driven compressors furnishing the power.

On 11 November the *Asche* was floated and towed to the shelter of a nearby cay, where further temporary repairs were made, and the ship was towed into New York on 1 December.

Skerrett continues:

> The *F. D. Asche* was like a ship without a bottom, her injured compartments like diving bells or inverted tumblers maintained by constant filling from the salvage compressors.
>
> In the New York dock it was shown that the bottom plating, full length, was successively indented until the steel skin formed a series of metal waves with ragged holes here and there. In starboard tank #4, in addition, the side plating was ripped and crushed to a height of eight feet above the keel.

The *Asche* had ridden one thousand miles on a cushion of compressed air.

All these were civilian feats, accomplished as part of the day's work of the wrecking companies. When the history of World War II is written equal if not greater achievements, accomplished under the spur of military necessity, are likely to be reported. A foretaste of this was furnished by *Where Away?*[4] which details the epic homeward voyage of the cruiser *Marblehead* after being literally blown out of the water by a Japanese torpedo off Java. The wooden ships are gone, but the iron men who manned them still have their descendants.

[4] (New York: Whittlesey House, 1944.)

Notes

A Sea Yarn of the Nineties.

In the latter part of the day of 'the wooden ship and the iron men,' when the sailing vessel was surely though slowly being driven from the seven seas by the steamship, the navigation aids were crude as compared with those of today. The captain had no radar, no 'iron mike,' no radio beam and no method of determining depth of water except the old sounding line.

Without the present instruments of precision many times the 'old man' had only his wits and a good old-fashioned horse-sense to carry him through.

In the early nineties the bark *J. H. Bowers,* Captain Frank A. Magune, Master, was on a passage from 'The River' to New York loaded with hides. A few days after he had entered the Caribbean Sea and was 'somewhere to the Eastward' of the Windward Islands, he ran into a storm and was four days without an observation of the sun. By 'dead reckoning,' determining his course, the distance sailed and considering a current that changed its course about that time of the year, he could not be sure of his position as, if the current had changed he was many miles away from a piece of land that, remote from an island, was unprotected by a light or a bell buoy. The sailors of that day called it 'Pinnacle Rock.' After three sleepless nights when double lookouts were maintained the captain was worrying about his position for, if the current had changed he might be nearer the rock than was comforting. The fourth noon he sighted a British tramp and by International Code asked her his position. The steamer hoisted its string of flags to a 'jack' stay running from fore to mainmast and when the signal broke all flags were directly over the funnel. Before the captain could be sure of each flag the fireman threw on coal and a heavy cloud of black smoke obscured the flags. Three were clear; the fourth was either a red square on a white background or a blue square on white. Was the unread flag a 'C' or a 'D'? Before the smoke cleared away the steamer turned 'stern to' and quickly sailed out of the captain's view.

Both he and the mate went below and reckoned their positions: the mate assuming the obscured flag a 'C' and the captain a 'D'. When they met on deck a while later the mate's position was three hundred miles away from Pinnacle Rock but the captain's position was 'right on top of it'!

Late that night the mate called the captain saying that he thought the clouds might break away and they might get an observation of a planet. On deck each stood several minutes watching the dark clouds gradually roll and the black curtain grow thin when, finally, a small 'hole' formed. Beyond it, shining clearly, was a clear beautiful 'morning star.' Each 'shot' it and went below to his navigating table. When they came on deck again each smiled. They agreed. The ship was three hundred miles away from Pinnacle Rock!

There was no more worry! Double lookouts were not necessary that next night and no man had to 'stand' on his watch 'below.'

I was the captain's son. Eleven years old, nothing escaped me! I was at my father's heels when the mate called him and I went on deck too! The beauty of the morning star, the mysteries of the great universe, the possibility of man's being able to determine his position on the face of the earth all made a deep impression on my mind that, after a lapse of sixty years, still is as vivid in my memory as though it was yesterday!

FRANK L. MAGUNE

Queries and Answers

80. MEDIEVAL SHIPS. Views of thirteenth-century ships are shown on the seals of various English towns and cities, notably the seal of Winchelsea, reproduced in fig. 37, p. 150 of E. Keble Chatterton, *Sailing Ships and Their Story,* and the seal of Hastings, reproduced in fig. 38, p. 151. Chapter V of this book contains an account of the development of the sailing ship from the eighth century to 1485. Ships of 1350 will be found in Augustin B. Creuze, *Naval Architecture* (1840). Good illustrations of the same period appear in E. Van Konijnenburg, *Shipbuilding from Its Beginning* (Brussels: Permanent International Association of Navigational Congresses, 1895-1905), II, 28, a copy of which may be found in the Engineering Room of the New York Public Library. Chatterton's *Old Sea Paintings,* opposite p. 20, reproduces an illumination from Froissart's *Chroniques,* showing three-masted sailing vessels of the late fourteenth century. Vice Admiral William L. Rodgers, *Naval Warfare under Oars—4th to 16th Centuries* (Annapolis: U. S. Naval Institute, 1939) contains useful information. Fig. 13 of that book, opposite p. 113, shows two ships of about 1200 in a relief on the Leaning Tower of Pisa, and fig. 10, opposite p. 92, shows the starboard side of a model of an English ship of about 1200 in the Science Museum, London. The port side of the same model is illustrated in Chatterton's *Sailing Ships and Their Story.*

C. A. MYERS

84. LUNAR DISTANCES. Some time ago, in connection with an article written for the *U. S. Naval Institute Proceedings* on the birth of the marine chronometer, and the bitter controversy known as 'The Battle of the Lunars' which attended its inception, the question was raised as to how much the method of 'lunar distances' for determining longitude actually had been employed by practical navigators before it finally faded from the picture. I know, of course, that 'scientific' navigators like Nathaniel Bowditch employed the method with success; there is a reference to its use by Captain Semmes of *Alabama* fame, and there are other references to it here and there. But otherwise the great majority of eighteenth- and nineteenth-century navigators appear to have let it severely alone. This is understandable, when we consider the inherent difficulties of the method, but I would be much interested in any further information on the subject.

J. M. SHEEHAN

85. SHIP *Reporter.* A portrait by D. McFarlane of the ship *Reporter,* painted in 1854, is mentioned in Howe and Matthews, *American Clipper Ships,* and a photograph of this picture is in the files of the Peabody Museum of Salem. However, another portrait of the ship was apparently painted in France four years later, for Captain Moses Rich Colman, master of the clipper ship *Asa Eldridge,* writing on 3 March 1858 from the Hotel Europe, Le Havre, states: 'I have got a nice picture of my ship painted here. I have hung it up in the Hotel, so Captain [Moses] Howes of the *Reporter* the same.' Does anyone know the location of the portrait of *Reporter* painted at Le Havre in 1858? If so, does the painting show an artist's signature?

ADDIE CUSHING COLMAN

Book Reviews

JAMES HORNELL, *Water Transport Origins and Early Evolution* (Cambridge: Cambridge University Press, 1946). 7″ x 9¾″, cloth. xv + 307 pages, 69 text figures, 45 plates, map.

Mr. Hornell is probably the best qualified man today to write on the subject of primitive watercraft since his work as a marine biologist took him to the Asiatic coast, the Pacific Islands, Indonesia, Africa and along the Mediterranean Coast. Being a man of broad interests he occupied himself with the collateral branches of economic marine biology until his greatest fame was in the field of anthropology. For many years he has been writing articles on primitive boats for *The Mariner's Mirror* and other publications.

The present work is a compilation of much of his previous material, but with the definite purpose of showing the development of watercraft. Water transport is traced from the wooden float to raft and then through skin boat, bark canoe, dugout and finally to plank-built boat. The book is filled with excellent descriptions of every conceivable type of craft from the simple pottery jug to the Arab dhow. He has taken his descriptions from personal observation, written accounts, and ancient monuments. No other work contains as much material on such craft as this book.

Mr. Hornell is most familiar with Old World boats and fondly spends many pages on British coracles and Irish curraghs, but he dismisses in half a paragraph the equally interesting American Indian bark canoes. The dispersion theory dominates his thinking completely, and he vainly tries to connect the Scandinavian countries with the Pacific Islands because the method of fastening the planks to the frames of the boats is similar. One other interesting idea is suggested by the author that the bark canoe is technologically farther down the evolutionary scale than the dugout. This is a statement open to serious doubt.

In spite of these minor points this book will probably be the standard work on this subject for many years to come.

ALLAN B. COLE, ED., *Yankee Surveyors in the Shogun's Seas; Records of the United States Surveying Expedition to the North Pacific Ocean, 1853-1856* (Princeton: Princeton University Press, 1947). 5¾″ x 8¾″, cloth. 161 pages, 1 plate, 3 charts. $2.50.

John Rodgers relieved Cadwalader Ringgold as commander of this expedition in August 1854 at Hong Kong. These are his letters to the Secretary of the Navy, the present whereabouts of which are not revealed. This is unfortunate, since the letters have been edited to serve as background for a study of commercial and political relations between the United States and Japan, and hence most of the hydrographic and other technical information in the reports has been omitted.

It is interesting to read Commander Rodgers' opinion of *John Hancock*. 'I hope you will give me permission to sell her,' he wrote. 'Her bulk heads fell down for want of proper strength in her construction. Her model is very defective. She is eminently unfit for her work.' Yet *John Hancock* was not sold out of the Navy until 1865. Her engines were then taken out and she was rerigged as a schooner and was operated on the Pacific Coast until wrecked in Alaskan waters in 1893!

ROGER WILLIAMS MCADAM, *Priscilla of Fall River* (New York: Stephen Daye Press, 1947. 5¾″ x 9⅛″, cloth. 224 pages, 48 illustrations. $3.75.

Roger McAdam's books on the Fall River Line are preserving something of the character of that institution which otherwise would not be known to future students of American steamboat history. His *The Old Fall River Line*, written in 1937, at a furious pace and in the white heat engendered among friends of the line by the news of its suspension, was an interesting sketch of the more significant aspects of the subject. *Salts of the Sound*, which followed two years later, as its title indicates, was a study more of the men who ran the steamers than of the vessels themselves. The new book is generally similar. Company officials, captains, engineers are recreated and set at work building and running the steamers once more. For the general reader, the result may be interesting. It does make lively reading. But for those acquainted with the species, there is doubt that steamboat men thought and spoke as they are depicted. George Peirce, of whom much is said, was no doubt a kindly man, but his general demeanor was that of his reticent New England Puritan ancestors. His associates respected and honored him, but it is probable that they would have been astonished to see him express visibly the least sentiment or emotion. The dialect of Captain Simmons, with due allowance for the customs of his generation, seems exaggerated. Howland Gardner, with whom the writer of this review was acquainted, was certainly not the Howland Gardner of the book. Devotion to the steamers these men had, without doubt, but one would need many years' intimate acquaintance with them to find it.

The title of the book would lead one to expect a monograph on the subject; in its place is a single page of data, with references here and there in the text to events of particular importance, but no detailed information. An admirable model would seem to be the paper on *Commonwealth*, written by Messrs. Gardner and Berry and published by the Society of Naval Architects and Marine Engineers in their volume of *Transactions* for the year 1908. Such a description of *Priscilla* would be an invaluable addition to the none too extensive bibliography of American inland steamers. It would be immaterial if, to such an exact description, some imaginary conversations or chatty remarks were added; but such should not preëmpt the essential part of the book.

To be specific, what one would expect from such a book would be an explicit description of her design, construction, and furnishing, illustrated by detailed photographs and by a set of drawings, of which a minimum would include plans of all decks, transverse and longitudinal sections, outboard elevation, and hull lines. Such material exists, for the most part, in relation to this boat. It is to be regretted that it was not more fully drawn upon.

EUGENE W. SMITH, *Trans-Atlantic Passenger Ships, Past and Present* (Boston: George H. Dean Company, 1947). 4½″ x 6½″, cloth. 350 pages, 92 illustrations, index. $3.50.

Despite the title, this book refers only to steam and motor ships. It presents a compact and extraordinarily handy check list of Western Ocean passenger liners from the first Cunarders of 1840 to the present. The book is in six parts which include: (1) A short history of the North Atlantic record breakers. (2) Principal steamers built between 1840 and 1940, arranged alphabetically with a good descriptive paragraph on each. (3) The same ships listed by fleets under the names of their owners. (4) All ships over 500 feet long listed in order of size. (5) Big liners classified by masts and funnels. (6) A pictorial section chronologically arranged.

The greater part of the illustrations were obtained from the redoubtable Nautical Photo Agency and the Peabody Museum of Salem. Though they are not too clearly reproduced, the value of the book for reference purposes is unimpaired.

ADMIRALTY, *British Merchant Vessels Lost or Damaged by Enemy Action During Second World War, 3rd September, 1939 to 2nd September, 1945* (London: H. M. Stationery Office, 1947). 8″ x 13″, 103 pages, paper covers. 5 *s.*

ADMIRALTY, *Ships of the Royal Navy; Statement of Losses During the Second World War, 3rd September, 1939 to 2nd September, 1945* (London: H. M. Stationery Office, 1947). 8″ x 13″, 70 pages, paper covers. 3 *s.* 6 *d.*

OFFICE OF PUBLIC INFORMATION, UNITED STATES NAVY, *Navy Department Communiques 601-624, May 25, 1945 to August 30, 1945; and Pacific Fleet Communiques 373 to 471; With Other Official Statements and Pertinent Press Releases* (Washington: Government Printing Office, 1946). 6″ x 9″, 127 + xxxii pages, paper covers.

JOINT ARMY-NAVY ASSESSMENT COMMITTEE, *Japanese Naval and Merchant Shipping Losses During World War II by All Causes* (Washington: Government Printing Office, 1947). 11″ x 8½″, xi + 123 + 57 pages, paper covers. 70 cents.

These official statements covering war losses of the three leading naval powers will be of great value to future historians, both from the statistical point of view and that of the narrator of accounts of individual ships.

The Admiralty lists give causes, dates, and locations of loss in full, and identify the vessels by tonnage. Completion dates of warships further assist identification. The merchant vessel list also gives monthly statistical tables of all Allied merchant vessel losses, analyzed as to causes. Both lists are fully indexed.

The Office of Public Information appended to Volume III of its published communiques a list of naval losses, including Coast Guard vessels. Causes, dates, and locations are given, but the list is not indexed. No corresponding list of American merchant ship losses can be said to have been published, although in the summer of 1945 the Maritime Commission issued a press release which has been widely reprinted; and more data as to the locations of losses can be found in the formerly confidential issues of *Merchant Vessels of the United States* from 1942 through 1945. An analysis of the causes of loss is still lacking.

The Japanese list, which was printed by offset from typewritten copy, is not quite as complete as the others, since the assessment committee has omitted a few vessels where information as to the cause of loss was not sufficient for its purposes. Naval and merchant losses are listed separately in chronological order, giving date, type, tonnage, location, and cause of loss, including the flag of the Allied unit involved. The list is fully indexed. An appendix gives the bag of individual United States submarines, which accounted for over half the total Japanese losses by all causes, including the perils of the sea.

A full appraisal of the effects of the war on shipping will also require consideration of the post-war losses due to mines. These are not included in any of the above tabulations, but the researcher can find them among other marine casualties in such periodicals as *Lloyd's List, Fairplay,* or *Shipping Register.*

UNITED STATES TREASURY DEPARTMENT BUREAU OF CUSTOMS, *Merchant Vessels of the United States 1946* (Washington: Government Printing Office, 1946). 11½" x 9¼", cloth. v + 813 pages. $4.25.

The seventy-seventh annual edition of this invaluable publication contains two significant changes. The traditional separate lists of steam, sailing, and motor vessels, yachts, and barges are now combined into a single list. This adds greatly to the convenience of using the volume; but a less worth-while change is abandonment of the word-by-word system of alphabetization in favor of a letter-by-letter arrangement.

With this issue the lists of vessels sold foreign, lost, or scrapped are restored. We are told in a foreword that the issues from 1943 to 1945 were published in both restricted and confidential editions, but all are now declassified.

ALEXANDER CROSBY BROWN, *The United States Frigate* Constitution, *A Sesquicentennial Exhibition, 1797-1947. Also Selected Material Relating to U.S.S.* Constellation (Newport News, The Mariners' Museum, 1947. 8" x 10½", paper covers. 28 pages. 50 cents.

Publication No. 16 of The Mariners' Museum covers an exhibition opened on the 150th anniversary of the *Constitution's* launching, 21 October 1947. The cover reproduces in color a modern painting by Thomas C. Skinner, but there are no other illustrations. A biographical sketch of the career of the old frigate is interspersed with listings of objects on display at the museum pertinent to each event described. This serves to bring greater interest to the material presented and tends to make the inevitable 'pieces of wood from' type of exhibit less objectionable than in the customary form of cataloguing by type of object.

Ships of the Esso Fleet in World War II (Standard Oil Company [New Jersey], 1946). 8" x 11¼", cloth, 535 pages, illustrated.

Over 665,000,000 barrels of petroleum products, plus deckloads of military cargoes, were delivered during World War II by the 135 Esso ocean tankers described in this volume. Something like a third became casualties.

Published for distribution to the officers and men of the Standard Oil Company (New Jersey) and Panama Transport Company fleets, and to the families of those who were lost, this book forms a valuable addition to the maritime history of the War.

Numerous shipping and shipbuilding organizations have commemorated their activities and achievements of World War II by the publication of souvenir books and pamphlets. The following does not purport to be a complete list by any means, but since there is some historical value in this type of ephemeral publication, despite understandable bias on the part of the sponsoring companies, NEPTUNE readers might welcome the opportunity of acquiring them.

BETHLEHEM STEEL COMPANY, SHIPBUILDING DIVISION, *Bethlehem Shipbuilding and Ship Repairs* (1946). 8½" x 11", paper covers, 44 pages, numerous illustrations.

CALIFORNIA SHIPBUILDING CORPORATION, WILMINGTON, CAL., *Calship Log - Victory Edition* (27 September 1945). 9" x 12", paper covers, 36 pages, numerous illustrations.

CRAMP SHIPBUILDING COMPANY, PHILADELPHIA, PA., *Cramps 1940-1944* (1944). 9" x 12", paper covers, 60 pages, numerous illustrations.

HOLLAND - AMERICAN LINE, *In the War at Sea: A Record of Rotterdam's Largest Merchant Fleet and its Gallant Crews from 1940 to 1945* by William C. Seabrook (1946). 5½" x 8", paper covers, 64 pages, 15 illustrations.

MARINSHIP CORP., SAUSALITO, CALIFORNIA, *Marinship* (1944). 9" x 12", paper covers, 40 pages, numerous illustrations.

MATSON NAVIGATION COMPANY, SAN FRANCISCO, *Ships in Gray: The Story of Matson in World War II* (1946). 5" x 7½", paper covers, 50 pages, 14 illustrations.

NEWPORT NEWS SHIPBUILDING AND DRY DOCK COMPANY, *The Shipyard in Peace and War* (1944). 8½" x 11", paper covers, 36 pages, numerous illustrations.

NORTH CAROLINA SHIPBUILDING COMPANY, WILMINGTON, N. C., *Five Years of North Carolina Shipbuilding, 1941-1946* (1946). 9" x 12", paper covers, 48 pages, numerous illustrations.

HIDDE MANHOUDT, JR., *Zeilschepen en Hun Tuigage; Voornamelijk het Diepwaterzeilschip Sedert het Jaar 1800* (Amsterdam: Holdert & Co. N. V., 1946), 6½" x 9½". 211 pages, color frontispiece and 43 figures. 9.50 guilders.

Although partly derived from, and not up to the quality of, Underhill's *Sailing Ships Rig and Rigging*, this volume contains a good deal of information on Dutch and German sailing vessels not found in any book in English. A useful feature is a list of sailing vessels still in *Lloyd's Register* for 1939, with remarks on the trades in which they were engaged.

There are also a set of Dutch rules for sparring a full-rigged ship in 1858, a table listing the sails carried by nineteen typical vessels of various rigs, a bibliography, and finally a glossary of Dutch rigging terms with French, German and English equivalents, the value of which is increased by an excellent index.

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